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No. I.

SUPPLEMENTAL NOTES TO MR. CHARLES OBERTHÜR'S FAUNE DES LÉPIDOPTÈRES DE LA BARBARIE, WITH LISTS OF THE SPECIMENS IN THE TRING MUSEUM.

(Continued from Vol. XXIV. p. 409 (1917).)

BY LORD ROTHSCHILD, F.R.S., PH.D.

(PLATES XIV,-XVII.)

THE long-expected volume of Mr. Oberthür's Etudes de Lépidoptérologie Comparée, containing the Noctuidae of Algeria, has at last appeared. The date on the wrapper is Octobre 1918, but the volume was only received in March 1919, so the date of publication for the new names published therein must be taken as 1919.

It calls for various remarks. Mr. Oberthür has adopted Guenée's system of elassification of the Noctuidae. Now, although the aim of Science is to establish uniformity of nomenclature and a single classificatory system, it is impossible to forbid the use of any system; we can only regret, therefore, that such a renowned entomologist as Mr. Oberthür adopts systems and methods abandoned by the majority of modern workers in Entomology. But while we can only regret this retrograde policy of Mr. Oberthür, we can and must strongly deprecate the reasons he has and gives for not adopting Sir George Hampson's elassification. Whatever other objections Mr. Oberthür may have to the British Museum classification, he lays stress on one only, namely he harps upon the rather unfortunate error made by Sir George Hampson in placing Phragmatobia breveti Oberth. in the genus Maenas. This error has long ago been acknowledged by its author. Mr. Oberthür makes great capital out of the aquatic habits of certain American species of Maenas as opposed to the desert habitat of breveti, quite ignoring the fact that the genus Maenas contains many African and Indo-Malayan species as well as American, and these are, as far as we know, non-aquatic in their habits. Sir George Hampson was misled by the somewhat aberrant neuration of P. breveti, which is almost identical with that of Maenas; moreover, breveti is not a Trichosoma as Mr. Oberthür asserts, but a true Phragmatobia. The abortive wings of the 2 are not a generic character, but only specific, as can be seen in the case of Cymbalophora rivularis Mén., which has a Q with abortive wings, while Cymbalophora pudica Esp. and C. oertzeni Led. have the 2 full winged. The aquatic habits of the larva are also only of secondary importance, for in the genus Spilosoma (Diacrisia) we find Spilosoma (Diacrisia) metalkana with a free swimming aquatic larva, while sannio and amurensis, which are very closely allied,

have ordinary terrestrial larvae. We cannot condemn a whole system simply because its author made one rather striking error.

I have adopted the British Museum classification because so far there does not appear to be a better one.

According to this classification, the family *Noctuidae* is divided into fifteen subfamilies, viz. :

Agrotinae; Hadeninae; Cuculliinae; Zenobiinae (Acronyctinae); Erastriinae; Phlogophorinae (Euteliinae); Odontoninae (Stictopterinae); Sarrothripinae; Westermanniinae (Acontiinae); Catocalinae; Diphterinae (Mominae); Phytometrinae; Noctuinae; Polypogoninae (Hypeninae); and Hyblacinae. Of these fifteen subfamilies, two, namely, the Diphterinae and Hyblacinae, have no representatives in Algeria, and three others, the Phologophorinae, Odontoninae, and Sarrothripinae, have only one representative each.

Sir George Hampson, who is a great stickler for classical correctness, in the case of names forming subfamily appellations in which the ending is in "ia," insists on the subfamily being formed with the ending "ianae," such as Cucullianae from Cucullia. The International Rules, however, say the sub-family term is to be made by the addition of the ending "inae" to the word, and so I have made the families Cuculliinae, Zenobiinae, Erastriinae, and Westermanniinae end in "iinae" instead "ianae."

I am taking the species, in the first place, in the order Mr. Oberthür has placed them in, for the purpose of critical remarks where these may be necessary; but at the end I am giving a full list of the species and genera in the order followed by the British Museum classification. I am giving a list of the Algerian, Tunisian, and Moroccan specimens in the British Museum as well as those at Tring.

1. Bryophila petrea Guen.

Bryophila petrea Guenée, Hist. Nat. Ins. Spec. Gen. Lépid. vol. v. Noct. vol. i. p. 25. No. 22 (1852) (Andalusia).

Mr. Oberthür records this species from Maafa and Lambessa; we have received 35 from Guelt-es-Stel, 1 from Batna, and 1 El Kantara.

There are in the Tring Museum 18 $\Im\Im$, 17 \cong from Guelt-es-Stel. This series shows considerable variation in the forewings, some being pale grey with hardly any markings, while others are of a deeper brighter grey with conspicuous black markings, and a few have such dark grey forewings that the black markings show up hardly darker than the ground colour.

1 ♀ Environs de Batna, 1914 (A. Nelva); 1 ♂ El Kantara, August 1917 (V. Faroult).

2. Bryophila aerumna Culot.

Bryophila aerumna Culot, Noct. et Géom. d'Eur. pt. i. vol. i. p. 131, pl. 22. f. 17 (1912) (Géryville).

Monsieur Culot quotes this and a number of other new species as "Oberth." because he adopts the names suggested by Mr. Oberthür in his letters to him; while Mr. Oberthür quotes them as "Culot (secundum Oberthür)." Both these methods are wrong; the correct way of quoting is *Bryophila aerumna* Culot; but if it is thought desirable to mention Mr. Oberthür's connection with these species, it should be done as follows: *Bryophila aerumna* Culot (Oberth. in litt.).

There are at Tring 32 specimens of this species from Sidi-bel-Abbès, September 1917 (M. Rotrou); Sebdou, September 1918 (P. Rotrou); Perrégaux, September 1915 (V. Faroult); Aïn Draham, September 1911 (V. Faroult).

[Bryophila aeton Culot = Catamecia mauretanica Stdgr.

Catamecia jordana var. mauretanica Staudinger and Rebel, Cat. Lepid. Pal. Faun, pt. i. p. 213. No 2192b (1901) (Biskra).

Bryophila acton Culot, Noct. et Géom. d'Eur. pt. i. vol. i. p. 132. pl. 22. f. 16 (1912) (El Outaya).

Neither Mr. Oberthür nor Mr. Culot have perceived that the type of acton is only a heavily marked fine specimen of Catamecia mauretanica Stdgr.]

3. Bryophila divisa oxybiensis Mill.

Bryophila oxybiensis Millière, Rev. Zool. 1874, p. 242 (Cannes).
Catamecia bryophiloides Rothschild, Novit. Zool. vol. xxi. p. 336. No. 194 (1914) (Guelt-es-Stel).

The name divisa has one year's priority over that of pomula; Esper being 1791, while Borkhausen is 1792. Père Engramelle, it is true, is older, but he has "La Pomule" not pomula, so the date of pomula is that of Borkhausen, who latinised Père Engramelle's name.

In 1913 (Novit. Zool. vol. xx. p. 125, No. 52) I unfortunately identified some unicolorous grey specimens of this insect from the Oued Nça as Bryophila pineti Stdgr., which I then only knew from a drawing. I have now discovered this error, and I name these unicolorous specimens ab. unicolor ab. nov. The form of divisa oxybiensis most similar in coloration to typical divisa must bear the name ab. rufitincta Rothsch. (Novit. Zool. vol. xx. p. 125 (1913)), and the form with the basal two-thirds of the forewing below median fold black is ab. distincta Rothsch., and, lastly, the very dark form ab. saturatior Rothsch., both described on p. 125.

We have at Tring 1 Hammam R'hira June 1916, 1 Alger January 1914 (V. Faroult); 27 ♂♂, 21 ♀♀ Oued Nça, June 1912 (E. H. and C. H.); 5 ♂♂, 2 ♀♀ Guelt-es-Stel, August—September 1913 (V. Faroult); 4 ♂♂, 2 ♀♀ Aïn Sefra, June—July 1915 (V. Faroult); 4 ♂♂, 1 ♀ Les Pins, September 1918 (M. Rotrou); 1 ♀ Sidi-bel-Abbès, July 1916 (M. Rotrou); 1 ♂, 1 ♀ Sebdou, July 1918 (P. Rotrou); 1 ♂ Glacières de Blida, June 1908 (W. P. and K. J.). Of the Aïn Sefra specimens 1 is ab. rufitincta and 1 the form of oxybiensis described by Staudinger as ab. striata, as is the Blida ♂.

In Novit. Zool. vol. xxi. I described 3 specimens from Guelt-es-Stel as Catamecia bryophiloides. These 3 (1 3, 2 \text{ }2) are smaller than the 4 other Guelt-es-Stel specimens, the wings are narrower, they are of a brown-grey colour, and have almost obsolete markings. Both Sir George Hampson and Dr. Jordan, who have re-examined these specimens, consider they are only an extreme aberration of d. oxybiensis, with which I must agree. Therefore bryophiloides sinks as a synonym of divisa oxybiensis. The Tring series thus totals 70 specimens.

4. Bryophila simulatricula Guen.

Bryophila simulatricula Guenée, Hist. Nat. Ins. Spec. Gén. Lépid. vol. v. Noct. vol. i. p. 26. No. 24 (1852) (Florence).

There has been considerable difference of opinion concerning the status of this insect. When Sir George Hampson wrote vol. vii. of his catalogue, he eonsidered it the same as palliola Borkh. = fraudatricula Hübn., and Mr. Oberthür appears to be of the same opinion. Sir George has, however, now come round to the opinion that it is a distinct species owing to the breeding of simulatricula and palliola from the egg by Herr Püngler and some of his friends.

I do not agree at all with Mr. Oberthür, nor does Sir George Hampson, that my albomaculata = albimacula Oberth, has anything to do with true simulatricula, of which I have four specimens from Guelt-es-Stel and Ain Sefra agreeing very well with European specimens.

2 ♀ Guelt-es-Stel June-July 1913, 1 ♂, 1 ♀ Ain Sefra June 1915 (V.

Faroult); in the Tring Museum.

5. Bryophila albomaculata albomaculata Rothsch.

Bryophila allomaculata Rothschild, Novit. Zool. vol. xxi. p. 333. No. 178 (1914) (Guelt-es-Stel). Bryophila simulatricula allimacula Oberthür, Etud. Lépid. Comp. fase. xvi. p. 9. pl. xd. f. 4033 (1919) (Batna).

There are two distinct races of this insect in Algeria, the typical form from East and Central Algeria, which is paler grey more or less washed with yellow, and a darker grey race with **no** yellow wash from West Algeria.

There are at Tring of the typical form: $1 \, \delta$, $5 \, \heartsuit$ Guelt-es-Stel, September 1913 (V. Faroult); $3 \, \diamondsuit$ Batna (Nelya coll.); $2 \, \diamondsuit$ Metlili, S. of Laghouat, September 1917 (V. Faroult).

6. Bryophila albomaculata grisescens subsp. nov.

Differs from a. albomaculata in the darker grey of the forewings with no trace of yellow wash. 'The reniform stigma is generally white, but not always.

6 ♂♂, 5 ♀ Sebdou, September 1918 (P. Rotrou); 1 ♂, 3 ♀ Les Pins, September 1918 (M. Rotrou).

7. Bryophila algae (Fabr.).

Noctua algae Fabricius, Syst. Entom. p. 614. No. 103 (1775) (Germany).

It is rather strange that I have received so few specimens of this species, which

is very abundant in Algeria.

1 3, 1 \circlearrowleft Sidi-bel-Abbès, September 1917 (M. Rotrou); 1 3, 1 \circlearrowleft Environs de Batna, 1911–1912 (Nelva coll.); 1 3 Les Pins, August 1918 (P. Rotrou); 1 3 Aïn Draham, September 1911 (V. Faroult); 4 33, 2 \rightleftharpoons Rabat, Morocco (A. Théry); 1 \rightleftharpoons El Mahouna, September 1919 (V. Faroult).

8. Bryophila galathea Mill.

Bryophila galathea Millière, Rev. Zool. 1874. p. 241 (Cannes).

This species appears to be very rare in Algeria, as I have only a single example. $1 \supseteq A$ in Sefra, May 9, 1913 (W. R. and E. H.).

9. Bryophila bilineata Rothsch.

Bryophila bilineata Rothschild, Novit. Zool. vol. xxi. p. 333. No. 179 (1914) (Guelt-es-Stel). Bryophila rosinans Oberthür, Etud. Lépid. Comp. fase. xvi. p. 10. pl. xd. Nos. 4034–4037 (1919) (Géryville).

This species = rosinans Oberth, and has five years' priority. It is quite distinct from ravula Hübn.

There are at Tring 84 specimens, Guelt-es-Stel, August—September 1913 (V. Faroult).

10. Bryophila ravula (Hübn.).

Noctua ravula Hübner, Eur. Schmett. Noct. f. 461 (1818) (Europe).

There are 84 specimens of this species at Tring from Aïn Draham, August—September 1911 (V. Faroult); Sidi-bel-Abbès, September 1917 (M. Rotrou); Sebdou, September 1918 (P. Rotrou); Forêt de Tenira, September 1918 (P. Rotrou); Perrégaux, September 1915 (V. Faroult); north side of Djebel Zaccar, August 1916 (V. Faroult); Environs de Taourirt, Morocco, July 1918 (M. Rotrou).

11. Bryophila anaemica Hmpsn.

Bryophila anaemica Hampson, Ann. Mag. Nat. Hist. (8) xiii. p. 156. No. 3527a (1914) (Batna).

This species was described from a very worn specimen; it is quite probable that it is an extreme aberration of albomaculata albomaculata, but as my 3 is quite fresh and is very different from that species, I keep it separate.

- 1 & Batna (Nelva coll.).
- 1 & type Batna, August 1910 (A. E. Eaton coll.) in British Museum.

12. Bryophila receptricula pallida B. Baker.

Bryophila pallida Bethune Baker, Trans. Entom. Soc. Lond. 1894. p. 37. pl. 1. f. 4 (Alexandria).

The Algerian specimens, though very variable, are all referable to the form pallida.

There are 108 specimens at Tring: 49 Sidi-bel-Abbès, September – October 1917 (M. Rotrou); 3 Les Pins, September 1918 (M. Rotrou); 3 Sebdou, September 1918 (P. Rotrou); 1 Messer, Prov. Oran, September 1917 (M. Rotrou); 1 Perrégaux, September 1915 (V. Faroult); 13 Forêt de Tenira, September 1918 (P. Rotrou); 2 Environs de Batna, 1911–1912 (Nelva coll.); 7 Aïn Draham, September 1911 (V. Faroult); Rabat, Morocco, July—August 1913 (A. Théry); Messen, September 1917 (M. Rotrou); 2 El Mahouna, July—September 1919 (V. Faroult).

13. Bryophila antias Culot.

Bryophila antias Culot, Noct. et Géom. d'Eur. pt. i. vol. i. p. 134. pl. 22. f. 13 (1912) (Sud Oranais).

3 ♀♀ are at Tring: Sebdou, September 1918 (M. Rotrou); Guelt-es-Stel, August 1913 (V. Faroult).

14. Bryophila pseudoperla Rothseh.

Bryophila pseudoperla Rothschild, Novit. Zool. vol. xxi. p. 334. No. 180 (1914) (Guelt-es-Stel).

The \mathcal{P} type remained unique till 1919.

1 ♀ Guelt-es-Stel, 4 ♂♂, 1 ♀ Metlili, S. of Laghouat, September 1917 (V. Faroult).

15. Bryophila muralis (Forst.).

Phalaena muralis Forster, Nov. Spec. Ins. p. 74 (1771) (England).

Both *muralis* and the form *par* accur in Algeria as well as extreme forms like *par*, but with no vestige of green tint.

Of the form muralis there are at Tring 16 specimens from Tunis; Ain Draham, August 1911, north side of Djebel Zacear, August 1916 (V. Faroult); Environs de Batna (Nelva coll.); Sidi-bel-Abbès, July—September 1917 (M. Rotrou); Les Pins, August 1918 (M. Rotrou); Sebdou, July—September 1918 (P. Rotrou); Forêt de Tenira, September 1918 (P. Rotrou). Of the form par and extremes, there are at Tring 8 specimens from Hussein Dey, May (Captain Holl); Sidibel-Abbès, August—September 1916—1917 (M. Rotrou).

16. Oederemia precisa (Warr.).

Metachrostis precisa Warren in Seitz Grossschm. Erde, vol. iii. p. 23 (1909) (Mazagan).

Jugurthia salmonea Culot, Noct. et Géom. d'Eur. pt. i. vol. i. p. 124. pl. 22. f. 12. (1912) (Zebch, nr. Sebdou).

Catamecia subperla Rothschild, Novit. Zool. vol. xxi. p. 336. No. 195 (1914) (Guelt-es-Stel).

The genus Jugurthia was founded by Monsieur Culot (Noct. et Géom. d'Eur. p. 124) to receive the 3 species microglossa, salmonea = precisa, and subplumbeola, and consists of the mixture of the two genera of Sir George Hampson Oederemia (Cat. Lep. Het. Brit. Mus. vol. vii. p. 405) type lithopasta Hmpsn. and Oedibrya founded on cinnomomina Rothsch. = subplumbeola Culot. As Oederemia antedates Jugurthia by four years, M. Culot's genus becomes a synonym. Mr. Warren's specific name precisa antedates salmonea by three years, and therefore both Mr. Culot's name and my subperla also become synonyms.

There are at Tring, including the types of precisa and subperla, 347 specimens from Mazagan, Morocco, September—October 1902 (W. Riggenbach); Lalla Marnia, Oran, September—October 1914 (V. Faroult); Sebdou, September 1918 (P. Rotrou); Merchich, Oran, September 1918 (P. Rotrou); Perrégaux, October 1915 (V. Faroult); Sidi-bel-Abbès, September—October 1917 (M. Rotrou); Guelt-es-Stel, August—October 1913 (V. Faroult).

This insect is extremely variable in ground-colour, varying from brown-grey to cinnamon-orange.

1 3, 1 \(\rightarrow \) in the British Museum (Guelt-es-Stel, received from Tring Museum).

17. Oedibrya subplumbeola (Culot).

Jugurthia subplumbeola Culot, Noct. et Géom. d'Eur. p. 125. pl. 22. f. 14 (1912) (Géryville). Catamecia cinnamomina Rothschild, Novit. Zool. vol. xxi. p. 336 (1914) (Guelt-es-Stel).

When I wrote my paper on the Guelt-es-Stel lepidoptera I had not got Mr. Culot's book, which accounts for my redescribing this insect. It is tolerably widely spread in Algeria, though nowhere very common.

We have at Tring 29 specimens, including the types of cinnamomina and the aberrations suffusa, griscola, and fasciata, the latter = ab. precisa Culot, from Guelt-es-Stel, September 1912–1913 (V. Faroult); Sidi Ferruch (A. Théry); Sidi-bel-Abbès, September 1917 (M. Rotrou); Sebdou, September 1918 (P. Rotrou); Les Pins, September 1918 (M. Rotrou); Aflou, September—October 1916 (V. Faroult); Lambessa, 1914 (Nelva coll.).

18. Pseudamathes volloni (D. Lucas).

Amathes volloni Daniel Lucas, Bull. Soc. Entom. France, 1907. p. 342 (Kebili).

This species was described from South Tunisia, and placed originally by Sir George Hampson in the genus Amathes. There are two specimens in the

British Museum, and on more careful examination they prove to belong to a new genus *Pseudamathes*, which comes next to *Pseudohadena* in the *Zenobiinae*. It appears to be rare in Algeria, as I have only received a single 3 from Aflou, October 10th, 1916 (Victor Faroult).

19. Craniophora pontica (Stdgr.).

Acronycta pontica Staudinger, Hor. Soc. Entom. Ross. vol. xiv. p. 364 (1879) (Kerasdere).

This insect is fairly abundant in Algeria. We have at Tring 58 specimens from Sebdou, May—June 1918 (P. Rotrou); Hammam R'hira, May—June 1916—1917 (V. Faroult); Sakamodi, August 1912 (V. Faroult); Hammam Meskoutine, April 1914 (W. R. and K. J.); Batna, July 1912 (Nelva coll.); Aïn Draham August—September 1911, north side of Djebel Zaccar August 1916, Environs de Setif 1911 (Victor Faroult).

Monsieur Oberthür says that his specimens from Sebdou are suffused with pink; the few I have from there have no pink shade and are very dark.

20. Acronycta tridens (Schiff. & Den.).

Noctua tridens Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 67 (1775) (Vienna),

We have at Tring 11 ♂♂, 15 ♀♀ from Aïn Draham, July—September 1911 (Victor Faroult); Bou Saada, March—May 1912 (V. Faroult); Batna (Nelva coll.); Environs de Setif, 1911 (V. Faroult); Hammam Meskoutine, April 1914 (W. R. and K. J.); 2 ♂♂ Hammam R'hira, May 1917 (V. Faroult).

21. Acronycta psi (Linn.).

Phalaena psi Linnaeus, Syst. Nat. edit. x. p. 514 (1758).

This species is not recorded from Algeria by Mr. Oberthür nor Mr. Culot. It was bred on cherry trees by Mr. M. Rotrou.

We have 6 33, 5 ♀ (1 cripple) from Sidi-bel-Abbès, Messer, and Aïn Fezza, May—September 1917 (M. Rotrou).

22. Acronycta rumicis pallida subsp. nov.

Differs from r. rumicis in being distinctly paler, but not so pale as rumicis turanica Stdgr. M. Oberthür has noticed the paler coloration, but did not give the Mauretanian form a name.

We have at Tring 126 specimens from Sidi-bel-Abbès, May-October 1917-1918 (M. Rotrou); Hammam R'hira, May-August 1916 (Victor Faroult); Environs de Setif, 1911 (V. Faroult); Batna, July 1912 (Nelva coll.); Aïn Draham, July-September 1911 (V. Faroult).

In the British Museum 1 &, Tangier, July 1902, Lord Walsingham.

23. Copicucullia oberthuri (Culot).

Simyra oberthuri Culot, Noct. et Géom. d'Eur. pt. i. vol. i. p. 26, pl. 3. f. 1 (1909) (Aflou).

Both Mr. Oberthür and Mr. Culot have placed this insect in the genus Simyra, with which it has nothing to do. It certainly has a slight resemblance to Simyra

dentinosa Frr., but it is a true Cueullid, and in spite of its pectinated antennae

belongs with cyrtana Mab. to the genus Copicucullia.

We have at Tring 181 specimens of this insect from Guelt-es-Stel October 1912—November 1913, Hassi Baba November 1917 (Victor Faroult). There are 3 55 (Guelt-es-Stel, October 1912) in the British Museum ex Tring Museum.

24. Lyeophotia mansoura (Chrét.).

Agrotis mansoura Chrétien, Ann. Soc. Entom. France, vol. 79. p. 498 (1910) (Gafsa).

I have this species from Guelt-es-Stel in some numbers. The general run of the specimens appear to have less sharply defined markings than is stated in Mr. Chrétien's description. This insect is placed by Mr. Oberthür in the genus Simyra, but it has not the remotest relationship with that genus: it is a true Agrotid, and together with the following species belongs to the genus Lycophotia of the subfamily Agrotinae, while Simyra is a genus of the Zenobiinae (Acronyctinae).

There are at Tring 149 specimens from Guelt-es-Stel, October 1912

(V. Faroult).

25. Lycophotia agrotina (Rothsch.).

Actinotia agrotina Rothschild, Novit. Zool. vol. xxi. p. 316. No. 61 (1914) (Guelt-es-Stel).

This species differs from mansoura in its much broader wings and more accentuated marking; it is figured in vol. xxvi. pl. i.

There are at Tring, including the type, 23 ♂♂, 3 ♀♀ from Guelt-es-Stel, October 1912 (V. Faroult).

26. Simyra autumna Chrét.

Simyra autumna Chrétien, Ann. Soc. Entom. France, vol. 79. p. 497 (1910) (Gafsa).

This appears to be the only true Simyra occurring in Mauretania; it is nearest to dentinosa Fir.

I have not received this species, nor have I ever seen a specimen.

Mr. Oberthür mentions it after Sesamia cretica, having evidently added it as an afterthought.

27. Argyrospila musculosa (Hübn.).

Noctua musculosa Hübner, Europ. Schmett. Noct. f. 363 (1808).

I recorded vol. xxi. p. 337, No. 198, Oria myodea Ramb. The specimen was

very greasy and turns out to be a very heavily marked musculosa.

We have at Tring 396 Mauretanian specimens from Environs d'Alger, May 1908, etc. (W. R. and K. J., Dr. Nissen and Captain Holl); Batna (Nelva coll.); Tunis; Guelt-es-Stel, May—June 1913 (V. Faroult); Hammam Meskoutine, May 1914 (W. R. and E. H.); Khenchela, June 1911 (V. Faroult); El Kantara, June 1911 (V. Faroult); Sidi-bel-Abbès, June 1917 (M. Rotrou); Zmila, Prov. Oran, June 1913 (V. Faroult); Sebdou, June 1918 (P. Rotrou); Forêt de Tenira, May 1918 (P. Rotrou); Masser Mines May 1914, Lalla Marnia May 1914 (V. Faroult); Hammam R'hira, May 1916 (V. Faroult); El Mesrane, June 1913 (V. Faroult); El Hamel, May 1912 (V. Faroult); Bou Saada and Djebel Kerdada, May 1912 (V. Faroult);

Terres Blanches, May 1913 (V. Faroult); Forêt de Djelfa, June 1913 (V. Faroult); El Mahouna, June—July 1919 (V. Faroult).

28. Sideridis lithargyria argyritis (Ramb.).

Leucania argyritis Rambur, Cat. Syst. Lépid. Andal. pl. 8. f. 2 (1858) (Andalusia).

Mr. Oberthür considers this insect a distinct species from *lithargyria*, but it is the general consensus of opinion that it is the Mediterranean subspecies of that species.

The Tring Museum possesses 77 specimens from Sidi-bel-Abbès, September 1916–1917 (M. Rotrou); Sebdou September 1918, and Forêt de Tenira August 1918 (P. Rotrou); Environs de Setif, 1911 (V. Faroult); Aïn Draham, August—

September 1911 (V. Faroult).

29. Sideridis albipuncta (Schiff. & Den.).

Noctua al'ipuncta Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 84 (1775) (Vienna).

Not so abundant as vitellina, but very plentiful in certain localities.

The Tring series from Mauretania consists of 160 specimens from Sidi-bel-Abbès, September—October 1917 (M. Rotrou); Sebdou, June 1918 (P. Rotrou); Forêt de Tenira, June—July 1918 (P. Rotrou); Les Pins, July 1918 (M. Rotrou); Environs de Setif and Oued Hamidou, June 1912 (V. Faroult); Khenchela, May 1912 (W. R. and K. J.); Blida, March 1916 (V. Faroult); Hammam R'hira, April—August 1912–1916 (W. R., E. H. and K. J., and V. Faroult); Masser Mines June 1914, north side of Djebel Zaccar August 1916 (V. Faroult); El Mahouna, June—September 1919 (V. Faroult).

30. Cirphis sicula (Treit.).

Leucania sicula Treitschke, Schmett. Eur. vol. x. pt. 2. p. 90 (1835) (Sieily).

This species varies considerably in the amount of black along the median vein and fold, and also in the size and distinctness of the black and white discocellular stigma.

We have at Tring 143 Mauretanian specimens from Sidi-bel-Abbès, September 1917 (M. Rotrou); Sebdou and Forêt de Tenira, September —October 1918 (P. Rotrou); Masser Mines, June 1914 (V. Faroult); Mazagan, Morocco, March 1902 (W. Riggenbach); Guelt-es-Stel, April—October 1912—1913 (V. Faroult); Hammam R'hira, May 1908—1916 (V. Faroult, and W. R. and K. J.); Hammam Meskoutine, April—May 1914 (W. R. and K. J.); Batna, May 1915 (Nelva coll.); Biskra, April 1908 (W. R. and E. H.); Environs d'Alger, May 1908 (W. R. and K. J., and Captain Holl); Souk Ahras, April 1914 (W. R. and K. J.); Aïn Draham August—September 1911, north side of Djebel Zaccar August 1916 (V. Faroult); Belvedère, Tunis, August—September 1915 (M. Blanc); El Mahouna, September 1919 (V. Faroult).

The extreme form with heavy black colouring along median vein and fold is very similar to the insect described by Bellier de la Chavignerie (Ann. Soc. Entom. France, ser. 4, vol. iii. p. 42, pl. ix. f. 5 (1863)) as Leucania hispanica, which Sir George Hampson has placed as a synonym of Cirphis prominens (Walk.). Mr. Oberthür treats the dark Algerian sicula as hispanica, but I have not yet seen a true hispanica from Algeria.

[Cirphis fuscilinea (Grasl.).

Leucania fuscilinea Graslin, Ann. Soc. Entom. France, ser. 2. vol. 10. p. 411. pl. 8. i. f. 2 (1852) (France).

I cannot agree with Mr. Oberthür and Sir George Hampson that this is a synonym of sicula. The strongly marked post-median curved line of black spots is not present in a single one of my 120 Algerian, etc. sicula, nor in 12 European ones I have; and my solitary Central Italian fuscilinea stands out most plainly from all the 132 in this character.]

31. Leucania languida Stdgr.

Leucania languida Staudinger, Iris, vol. x. p. 284. pl. ix. f. 15 (1897) (Jordan Valley).

Mr. Oberthür records a single specimen from Biskra. I have never had one from Mauretania.

32. Cirphis algirica (Oberth.).

Leucania algirica Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 19. pl. xd. ff. 4045, 4046 (1919) (Batna).

I have received 43 specimens of this species, 16 from Sidi-bel-Abbès, June—September 1917 (M. Rotrou); and 2 from Aïn Sefra July 1915, Hammam R'hira June 1917 (V. Faroult); Forêt de Tenira, October 1918 (P. Rotrou).

33. Cirphis punctosa (Treit.).

Simyra punctosa Treitsehke, Schmett. Eur. vol. v. pt. 2. p. 287 (1825) (S. France).

We have at Tring 250 Mauretanian specimens, 181 Guelt-es-Stel, August—October 1912–1913 (V. Faroult); and 53 from Sebdou and Forêt de Tenira, September 1918 (P. Rotrou); Sidi-bel-Abbès, September 1917 (M. Rotrou); Les Pins, September 1918 (M. Rotrou); Perrégaux October 1915, Aflou October 1916 (V. Faroult); Batna, 1913–1914 (Nelva coll.); El Mahouna, September 1919 (V. Faroult).

34. Cirphis putrescens (Geyer).

Noctua putrescens Geyer in Hübner, Samml. Eur. Schmett. Noct. ff. 730-731 (1827).

We have 392 specimens at Tring from Guelt-cs-Stel, August—September 1913 (V. Faroult); Sebdou and Forêt de Tenira, September 1918 (P. Rotrou); Sidi-bel-Abbès, September 1917 (M. Rotrou); Aflou October 1916, Perrégaux October 1915, Metlili, S. of Laghouat, September 1917 (V. Faroult).

35. Cirphis loreyi (Dup.).

Noctua loreyi Duponchel, Lépid. France, vol. vii. p. 81. pl. 105. f. 7 (1827) (France).

The Mauretanian series at Tring consists of 116 specimens from Sidi-bel-Abbès, August—October 1917 (M. Rotrou); Sebdou and Forêt de Tenira, June — July 1918 (P. Rotrou); Perrégaux, October 1915 (V. Faroult); Aflou, October 1916 (V. Faroult); Guelt-es-Stel, September 1912—June 1913 (V. Faroult); Le Kreiden (M. Rotrou); Masser Mines June 1914, Batna 1911—1912 (Nelva coll.); Tilghemt April 1912, El Kantara August 1917 (V. Faroult); El Golea, March 1912 (Hartert and Hilgert); Biskra, March 1908—1911 (W. R. and E. H., V. Faroult); Environs de Setif, 1911 (V. Faroult); Oued Hamidou June 1912, Aïn

Draham July 1911 (V. Faroult); Bou Saada, April 1912 (V. Faroult); Hammam R'hira, May 1913 (W. R. and E. H.); Environs d'Alger (Captain Holl and Dr. Nissen); El Mahouna, June 1919 (V. Faroult).

In the British Museum are 1 ♀ Central Plains, Morocco, June 1901, Meade Waldo; 1 ♂ Biskra, December 1896, A. E. Eaton.

36. Cirphis l. album (Linn.).

Phalaena l. al'um Linnaeus, Syst. Nat. edit. xii. p. 850 (1767) (Europe).

The Mauretanian series at Tring consists of 130 specimens from Environs d'Alger, February—May 1908 (W. R., E. H., and K. J.); Hammam R'hira, May 1908—June 1916 (W. R., E. H., and K. J., and V. Faroult); Guelt-es-Stel, April—October 1913 (V. Faroult); Laghouat, April 1911 (W. R. and E. H.); Blida les Glacières, June 1908 (W. R. and K. J.); Biskra, February—April 1908–1911 (W. R. and E. H.); Environs de Batna, April—August 1912—1914 (Nelva coll.); Lambessa, July 1912 (Nelva coll.); Khenchela, May 1912 (W. R. and K. J.); Aïn Draham, August—September 1911 (V. Faroult); Perrégaux, October 1915 (V. Faroult); Masser Mines, June 1914 (V. Faroult); Messer, September 1917 (M. Rotrou); Sidi-bel-Abbès, September 1917 (M. Rotrou); Forêt de Tenira, June—August 1918 (P. Rotrou); Sebdou, May 1918 (P. Rotrou); Aflou, October 1916 (V. Faroult); Bou Saada, March—April 1911 (Victor Faroult).

37. Cirphis congrua (Hübn.).

Noctua congrua Hübner, Samml. Europ. Schmett. Noct. f. 616 (1827).

This appears to be very rare in Algeria, as Mr. Oberthür only received 1 and I have only 3 specimens.

1 ♀ Hammam R'hira, August 28th, 1916 (V. Faroult); 1 ♂ Hammam Meskoutine, April 1914 (W. R. and K. J.); 1 ♂ Sidi-bel-Abbès, October 1917 (M. Rotrou).

38. Sideridis vitellina (Hübn.).

Noctua vitellina Hübner, Samml. Europ. Schmett. Noct. ff. 379, 539 (1827).

Both Warren's ab. pallida and my Borolia lacteicolor are the pale form of this insect. It is strange that this pale form is almost invariably smaller than the darker more strongly marked typical form.

The series of Mauretanian examples at Tring consists of 319 specimens, 218 typical vitellina and 161 ab. pallida Warr. from Environs d'Alger, May 1908 (W. R., E. H., and K. J.); Blida les Glacières, June 1908 (W. R. and K. J.); Khenchela, May 1912 (W. R. and K. J.); Hammam Meskoutine, April 1914 (W. R. and K. J.); Hammam R'hira, May—June 1908–1913 (W. R., E. H., and K. J.); Guelt-es-Stel, April—May 1912–1913 (W. R. and K. J., and V. Faroult); Batna, September 1910—August—September 1912 (Nelva and V. Faroult); Bou Saada, April—May 1912 (V. Faroult); Oran, April 1913 (W. R. and E. H.); Sidi-bel-Abbès, May 1918 (M. Rotrou); Aïn Sefra, May 1913 (W. R. and E. H.); Forêt de Tenira, June 1918 (P. Rotrou); Sebdou, May 1918 (P. Rotrou); Titen Yaya, May 1915 (M. Rotrou); Messer, September 1917 (M. Rotrou); Aïn Draham, August—September 1911 (V. Faroult); Environs de Setif, 1911 (V. Faroult); El Mahouna, September 1919 (V. Faroult).

39. Cirphis riparia (Ramb.).

Leucania riparia Rambur, Ann. Soc. Obs. 1829. p. 261. pl. 6. f. 6.

I have 8 Mauretanian examples of this species from Moroccan Frontier; 15 km. west of Lalla Marnia, May 1914 (V. Faroult); Aïn Sefra, May 1915 (V. Faroult); Batna (Nelva coll.); Sidi-bel-Abbès, September 1917 (M. Rotrou).

Not recorded by Mr. Oberthür.

40. Cirphis zeae (Dup.).

Noctua zeae Duponchel, Lépid. France, T. vii. (Noct. vol. 4. pt. 1) p. 363, pl. 122, f. 4 (1827) (France).

This species is not mentioned by Mr. Oberthür.

The Mauretanian series at Tring consists of 13 specimens from Sidi-bel-Abbès, August—October 1917 (M. Rotrou); and 1 \circ Forêt de Tenira, August 1918 (P. Rotrou).

41. Cirphis unipuncta (Haw.).

Noctua unipuncta Haworth, Lépid. Brit. p. 174 (1809) (Great Britain).

This is also not mentioned by Mr. Oberthür.

1 & Aïn Draham, August 1911 (V. Faroult); 1 ${\mathbb Q}$ Sidi-bel-Abbès, October 1917 (M. Rotrou).

42. Leucania obsoleta (Hübn.).

Noctua obsolcta Hübner, Samml. Europ. Schmett, Noct. f. 233 (1827).

Mr. Oberthür has not recorded this species.

1 ♀ Batna, July 1912 (Nelva eoll.).

43. Sesamia vuteria (Stoll).

Phalaena vuteria Stoll, Suppl. Cram. Pap. Exot. p. 161. pl. 36. f. 5 (1783) (Cape Colony).

Mr. Oberthür records this species under Lefebre's name of nonagrioides, the date of which is 1827. I have received only females of vuteria.

We have at Tring 10 ♀♀ from Sidi-bel-Abbès, May—September 1917–1918 (M. Rotrou); Sebdou and Forêt de Tenira, September 1918 (P. Rotrou); Blida, March 1916 (V. Faroult); Oued Hamidou, June 1912 (V. Faroult).

In the British Museum are 1 ♂, 1 ♀ Algeria, Mrs. Nicholl and Leech coll.; 1 ♀ Hammam-es-Salahin, March 1904, Lord Walsingham.

44. Sesamia cretica Led.

Sesamia cretica Lederer, Noct. Europ. p. 225 (1857) (Crete).

Mr. Oberthür only records by name 2 species, but throws out a hint that Staudinger's var. et ab. *striata* is probably a distinct species; my series not only shows this to be the ease, but I have also a fourth species *calamistis* Hmpsn. I only have 8 typical *cretica*.

1 ♂, 2 ♀♀ Sidi-bel-Abbès, June 1916–1917 (M. Rotrou); 1 ♀ (dwarf) Perrégaux, September 1915 (V. Faroult); 2 ♀♀ Sebdou, July—September 1918 (P. Rotrou); 1 ♂ Aïn Draham, September 1911 (V. Faroult).

45. Sesamia striata Stdgr.

Sesamia cretica var. et ab. striata Staudinger, Stett. Entom. Zeit. 1888. p. 27 (Fergana).

I have $2 \circlearrowleft \circlearrowleft$, $3 \ncong$, all of which are much paler than cretica, show no trace of pink ground-colour, and all have the dark median band from base to termen.

2 ♂♂, 3 ♀♀ from Sidi-bel-Abbès, June 1916–1917 (M. Rotrou); Sebdou and Forêt de Tenira, June—July 1918 (P. Rotrou); Aïn Draham, August—September 1911 (V. Faroult).

46. Sesamia calamistis Hmpsn.

Sesamia calamistis Hampson, Cat. Lepid. Phal. Brit. Mus. vol. ix. p. 325. No. 4754. pl. exliv. f. 18 (1910) (Grahamstown).

This species, like *vuteria*, was first described from South Africa, and evidently like that species has a much larger range than we at first suspected. The 3 specimens sent by Mr. Rotrou are quite typical.

1 ♂, 2 ♀ Sidi-bel-Abbès, September 1917 (M. Rotrou).

47. Argyrospila striata Stdgr.

Argyrospila striata Staudinger, Iris, vol. x. p. 265. pl. 4. f. 4 (1897) (Chellala).

Two insects have been mixed up under this name by subsequent authors, viz. *Timora albida* Hmpsn. and the present species. This has been caused by both species having longitudinal white streaks on the forewings, and nobody having both species until we collected them.

The Tring Museum series consists of 317 specimens from Guelt-es-Stel May 1913, Puits Baba May 1913, Terres Blanches May 1913 (Victor Faroult); Aïn Sefra, May 1913 (W. R. and E. H.); Zuilla, June 1913 (V. Faroult); Sebdou, June 1918 (P. Rotrou).

48. Timora albida Hmpsn.

Timora albida Hampson, Ann. Mag. Nat. Hist. (7) xv. p. 450 (1905) (Algeria).

This insect has been much confused with the previous onc.

The series at Tring consists of 81 specimens from Aïn Sefra, May 1913-1915 (W. R. and E. H. and V. Faroult); halfway between Ouargla and El Golea, March 1912 (Hartert and Hilgert); Guelt-es-Stel and Terres Blanches, May 1913 (V. Faroult); Hassi Dinar, El Alia, Guerrara, El Arich, Hassi Sidi Mahmund, and Oued Nça, April 1914 (Hartert and Hilgert).

 $2 \mbox{\ensuremath{\not\sim}}$ Hammam-es-Salahin, April 1904 (Lord Walsingham), are in British Museum.

49. Argyrospila dulcis Oberth.

Argyrospila dulcis Oberthür, Etud. Lépid. Comp. fase, xvi. p. 23. pl. xdi. ff. 4052, 4053 (1919) (Géryville).

I do not possess this species.

50. Arenostola deserticola (Stdgr.).

Calamia deserticola Staudinger, Iris, vol. xii. p. 371. pl. 5. f. 10 (1900) (Biskra).

I have received a male and female of this species from Ain Sefra, June 1915 (V. Faroult); Environs de Batna, 1914 (A. Nelva).

The British Museum has 1 & Hammam-es-Salahin, April 1904, Lord Walsingham.

51. Arenostola mabillei (D. Lucas).

Tapinostola mabillei Daniel Lucas, Bull. Soc. Entom. France, 1907, p. 342 (Le Tarf).

I have 1 ♀ Forêt de Tenira, November 1918 (P. Rotrou).

52. Oria fulva africana (Oberth.).

Tapinostola fulva africana Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 26. pl. xdi. ff. 4048–4050 (1919) (Géryville, Aflou).

The Tring series, all ♀♀, consists of 9 specimens from Sidi-bel-Abbès, September —October 1917 (M. Rotrou); Forêt de Tenira, October 1918 (P. Rotrou).

53. Archanara neurica (Hübn.).

Noctua neurica Hübner, Europ. Schmett. Noct. f. 381 (1808).

I have not received this from Mauretania.

54. Archanara dissoluta (Hübn.).

Noctua dissoluta Hübner, Europ. Schmett. Noct. ff. 659-661 (1818).

I have 3 Algerian examples: 1 ♂ Hammam R'hira, May 1913 (W. R. and E. H.); 1 ♀ Hammam Meskoutine, May 1914 (W. R. and E. H.); 1 ♂ Sidi-bel-Abbès, July 1916 (M. Rotrou). The Hammam R'hira ♂ is quite black, as is the Sidi-bel-Abbès one.

55. Archanara affinis sp. nov.

This species is very close to *neurica*, but is darker, more blackish and can be at once distinguished by the 4 black points at the 4 corners of the reniform and the black points below the orbicular. This is possibly what Mr. Oberthür calls *neurica*.

1 & Sidi-bel-Abbès, June 1917 (M. Rotrou).

56. Stilbia anomala calberlae (Faill.).

Caradrina calberlae Failla-Tedaldi, Nat. Sicil. vol. x. p. 29. pl. 1. f. 4 (1890) (Sicily).

· 3 ♂♂, 1 ♀ El Mahouna, September 1919 (V. Faroult).

57. Stilbia algirica Culot.

Stilbia algirica Culot, Noct. et Géom. d'Eur. pt. i. vol. ii. p. 45. pl. 45. f. 18 (1914) (Géryville).

We only received this very distinct species from Guelt-es-Stel and Aflou; 44 specimens Guelt-es-Stel October 1912, Aflou October 1916 (V. Faroult) are at Tring.

1 3, 1 ♀ Guelt-es-Stel (ex Tring Museum) are in the British Museum.

58. Stilbia turatii D. Lucas.

Stilbia turatii Daniel Lucas, Bull. Soc. Entom. France, 1910, p. 272 (Le Tarf).

I have never received this species. Up to March 1919 the only known specimens number 8, all 33, viz. 2 from Le Tarf in coll. Daniel Lucas, and 4 Aïn Draham, 1 Maafa and 1 Amasia, all in coll. Oberthür.

59. Stilbina numida (Oberth.).

Hypeuthina numida Oberthür, Etud. Entom. Fasc. xiii. p. 27. pl. 6. f. 41 (1890) (Magenta).

We have principally received this species from Guelt-es-Stel.

There are at Tring 110 &3, 18 \times \text{Guelt-es-Stel October 1912-1913, 2 &3, 2 \times \text{Perrégaux October 1915 (V. Faroult); 1 \times \text{Sidi-bel-Abbès, November 1917 (M. Rotrou); 1 \times \text{Batna (A. Nelva).}

In the British Museum are 3 33 ex Tring Museum.

60. Brithys pancratii (Cyr.).

Noctua paneratii Cyrillo, Entom. Nap. pl. 12. f. 4 (1787) (Naples).

The Tring series consists of 32 specimens from Environs d'Alger (Captain Holl and Dr. Nissen); Aïn Draham, July 1911 (V. Faroult); Belvedère, Tunis, August—September 1915 (M. Blanc); Environs de Setif, 1911 (V. Faroult).

61. Brithys encausta (Hubn.).

Noctua encausta Hübner, Samml. Europ. Schmett. Noct. f. 392 (1827).

I have received 4 specimens of this species from Mauretania. 2 33, 2 9 Tunis.

62. Spodoptera abyssinia Guen.

Spodoptera abyssinia Guenée, Hist. Nat. Ins. Spec. Gén. Lépid. vol. v. Noct. vol. i. p. 154 (1852) (Abyssinia).

Mr. Oberthür has used Lederer's name for this insect because Guenée remarks on the label of a specimen "not compared with type," and moreover put it in the genus Caradrina = recte Athetis, where it does not belong. Now because an author remarks he has not compared his specimens with his own type in another collection, it is no reason to say he doubted the identification, and we thus see into what nomenclatorial muddles those writers can bring us who strictly adhere to the shibboleth that a good figure alone makes a name valid.

The Tring Museum has 29 Mauretanian examples from Biskra, March—April 1908–1909 (W. R. and E. H.); Mazagan, Morocco, October—December 1902 (W. Riggenbach); Rabat, Morocco, August 1913 (A. Théry).

63. Athetis germaini (Dup.).

Bryophila germaini Duponchel, Ann. Soc. Entom. France, vol. iv. p. 194. pl. 4a. f. 2 (1835) (Montpellier).

Although Mr. Oberthür says this is extremely common in Algeria, strange to say I only have received 2 specimens.

1 3, 1 ♀ Guelt-es-Stel, October 1912 and September 1913 (V. Faroult).

64. Athetis aspersa (Ramb.).

Caradrina aspersa Rambur, Ann. Soc. Entom. France, vol. iii. p. 385. pl. 8. f. 3 (1834) (Marseilles).

I have not received this insect.

65. Athetis atriluna (Guen.).

Caradrina atriluna Guenée, Hist. Nat. Ins. Spec. Gén. Lépid. vol. 5. Noct. vol. i. p. 252 (1852) (Abyssinia).

This insect is not recorded by Mr. Oberthür.

The Tring series consists of 8 ♂♂, 10 ♀♀ from Mazagan August 1901, Seksawa April 1905, Morocco (W. Riggenbach); Perrégaux, September 1915 (V. Faroult); Sidi-bel-Abbès, September 1917 (M. Rotrou).

66. Athetis alsines (Brahm).

Noctua alsines Brahm, Ins. Kal. vol. ii. p. 114 (1791) (Mayence).

This species also is not mentioned by Oberthür.

1 $\mbox{$\mathbb Q$}$ Aïn Draham September 1911, 1 $\mbox{$\mathbb Q$}$ Guelt-es-Stel October 1913 (V. Faroult).

67. Athetis blanda (Schiff. and Den.).

Noctua blanda Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 77 (1775) (Vienna).

This is also not recorded by Mr. Oberthür. Mr. Culot figures it on pl. 48, f. 4 of his *Noctuelles et Géomètres d'Europe*, under the name of *taraxaci* Hübn., which however dates from 1818 only.

The Tring series consists of 14 ♂♂, 35 ♀♀ Aïn Draham, August—September 1911 (V. Faroult).

68. Athetis casearia (Stdgr.).

Caradrina casearia Staudinger, Iris, vol. xii. p. 375. pl. 5. f. 1 (1899) (Jordan Valley).

I have not received typical casearia or the ab. bilineata Culot.

69. Athetis pertinax inumbrata (Stdgr.).

Agrotis inumbrata Staudinger, Iris, vol. xii. p. 363 (1899) (Zeitun).

Victor Faroult sent me 2 33 of this fine insect, hitherto only known from Asia Minor. 2 33 Perrégaux, October 1915 (V. Faroult).

70. Lycophotia kermesina (Mab.). (Pl. XVII. f. 19.)

Noctua kermesina Mabille, Ann. Soc. Entom. France (4) 9. p. 55. pl. 2. fig. 10 (1869) (Boscognagno, Corsica).

Mr. Oberthür has described *Caradrina suavis* and Mr. Culot *Caradrina flavida*; and Mr. Oberthür suggests that these two insects may possibly be only colour varieties of *kermesina* Mabille. This is certainly the fact, and as *kermesina* is extremely variable, Mr. Oberthür's subspecific name of *delectans* must also sink.

The series at Tring consists of 92 specimens from Environs de Batna, 1913–1914 (Nelva coll.); Aflou, September 1916 (V. Faroult); Guelt-es-Stel, September—November 1912-1913 (V. Faroult).

71. Athetis astigmata Rothsch.

Athetis astigmata Rothschild, Novit. Zool. vol. xxi. p. 336. No. 193 (1914) (Guelt-es-Stel).

As I had not figured this species, Mr. Oberthür as usual calmly ignored it, and redescribed it as devitifimbriata in his Fasc. XVI. p. 58 (1919).

I have 1 3, 2 \text{ Guelt-es-Stel, October—November 1913 (V. Faroult).

72. Athetis ambigua (Schiff. and Den.).

Noctua ambigua Schiffermüller and Den. Ank. Syst. Werk. Schmett. Wienergeg. p. 77 (1775) (Vienna).

The Mauretanian series at Tring consists of 197 specimens from Guelt-es-Stel, May 1913 (V. Faroult); Environs de Batna, 1909–1912 (Nelva coll.); Lambessa, October 1915 (Nelva coll.); Hammam Meskoutine, April—May 1914 (W. R., K. J., and E. H.); Sidi-bel-Abbès, September 1917 (M. Rotrou); Sebdou, May 1918 (P. Rotrou); Perrégaux, October 1915 (V. Faroult); Khenchela, May 1912 (W. R. and K. J.); Hammam R'hira, May—June 1911–1915 (W. R., E. H., and Faroult); Oued Hamidou, June 1914 (V. Faroult); Bou Cedraia, May 1913 (V. Faroult); Aïn Draham, September 1911 (V. Faroult); Imitaut and Mazagan, Morocco, May 1902–1904 (W. Riggenbach); Environs d'Alger, May—September 1968 (W. R., K. J., and Dr. Nissen); El Mahouna, September 1919 (V. Faroult).

73. Athetis kadenii rufostigmata Rothsch.

Athetis rufostigmata Rothschild, Novit. Zool. vol. xxi. p. 335 (1914) (Guelt-es-Stel).

Mr. Oberthür says that the Algerian form is *proxima* Rambur, but I consider it to be distinct, as it has the reniform stigma much darker, rufous **not** orange-vellow, and more strongly marked.

I am convinced also that *kadenii* is a distinct species, not a form of *fusci*cornis Ramb., as Sir George Hampson has stated it to be.

We have at Tring 48 specimens from Guelt-es-Stel, October 1913 (V. Faroult); Sidi-bel-Abbès, September 1917 (M. Rotrou); Saida, May 1913 (W. R. and E. H.); Perrégaux, October 1915 and Masser Mines, June 1914 (V. Faroult); Environs de Batna, 1909–1912 (Nelva and V. Faroult); Khenchela, May 1912 (W. R. and K. J.); Hammam R'hira, May 1913 (W. R. and E. H.); Oued Hamidou June 1912, and Bordj-ben-Anéridj October 1912 (V. Faroult); Les Pins, September 1918 (M. Rotrou); Sebdou June, Forêt de Tenira September 1918 (P. Rotrou).

74. Athetis hispanica (Mab.).

Caradrina hispanica Mabille, Ann. Soc. Entom. France, vol. lxxv. p. 30. pl. 3. f. 1 (1906) (La Granja).

Mr. Oberthür places this as a local race of *selini* Boisd., while Sir George Hampson considers it a distinct species. If Mr. Culot's figures of *selini* are correct, it is abundantly distinct.

I have 9 specimens from Batna (Nelva coll.); Biskra, March 1914 (W. R. and E. H.); Souk Ahras, April 1914 (W. R. and K. J.); Sidi-bel-Abbès, September 1917 (M. Rotrou).

75. Athetis ingrata (Stdgr.).

Caradrina ingrata Staudinger, Iris, vol. x. pp. 175, 286. pl. 4. f. 13 (1897) (Syria).

I have only received 1 specimen of this species, which appears to be very rare in Mauretania.

1 & Environs de Batna, 1911-1912 (Nelva coll.).

76. Athetis flavirena (Guen.).

Caradrina flavirena Guenée, Hist. Nat. Ins. Spec. Gén. Lépid. vol. v. Noct. vol. i. p. 250 (1852),

The Tring series from Mauretania eonsists of 15 ♂♂, 19 ♀ from Blida les Glaeières, June 1908 (W. R. and K. J.); Guelt-es-Stel, October 1912 (V. Faroult); Forêt de Tenira, September 1918 (P. Rotrou); Environs d'Alger (Captain Holl); Environs de Batna (Nelva coll.); Berrouaghia, April 1914 (V. Faroult); Guelt-es-Stel, April—May 1912–1913 (W. R. and K. J., and V. Faroult),

77. Athetis flava (Oberth.).

Caradrina flava Oberthür, Etud. Entom. fasc. i. p. 45. pl. 4. t. 3 (1876) (Algeria).

Mr. Oberthür states that this insect varies much in size, but I have not found this to be the case. The small specimens that I have received all belong to my approximans, which is conspicuous by the heavy and broad greyish termen.

The Mauretanian series at Tring consists of 204 specimens from Biskra, April 1908—March 1914 (W. R. and E. H.); Bordj Mccht-el-Kaid, April 1909 (W. R. and E. H.); Bou Saada, April 1911—March 1912 (V. Faroult); Tilghemt April 1912 (V. Faroult); Ghardaïa, April 1911 (W. R. and E. H.); El Kantara March—April 1911 (Faroult); Khenchela, June 1911 (V. Faroult); South Oued Mya and North of Aïn Guettera, April 1912 (Hartert and Hilgert); Environs de Setif, 1911 (Faroult); Berrouaghia, April 1914 (V. Faroult); Environs de Batna, 1913–1914 (Nelva coll.); Guelt-es-Stel, April 1913; Djebel Autan May 1918, Bordj Chegga March 1917, Aïn Sefra March 1915, Mecheria May 1918 (V. Faroult); Souk Ahras, April 1914 (W. R. and K. J.); Oued Nça, April 1914 (Hartert and Hilgert); Oud Dehin and Oued Ag-cld, Timenaiin, March 1914 (Geyr von Schweppenburg).

The British Museum has 1 & Algeria, Mrs. Nicholl; 2 & El Kantara, April 1913, P. A. Buxton.

78. Athetis oberthuri Rothsch. (Pl. XVII, f. 26.)

Athetis oberthuri Rothschild, Novit. Zool. vol. xx. p. 126. No. 57 (1913) (South Oued Mya).

The Tring Museum possesses 1 \Im , 1 \Im Oued Nça, April 1914, 1 \Im , 3 \Im from South Oued Mya, April 1912 (Hartert and Hilgert).

This species is very similar to cascaria Stdgr., but much more heavily marked.

79. Athetis appreximans Rothsch.

Athetis approximans Rothschild, Navit. Zool. vol. xxi. p. 334. No. 187 (1914) (Guelt-es-Stel).

The Tring series consists of 131 specimens from Rharis, April 1914 (Geyr von Schweppenburg); Guelt-es-Stel, August—October, 1912-1913 (V. Faroult); Les

Pins, September 1918 (M. Rotrou); Aïn Sefra April 1915, Metliti September 1917 (V. Faroult); El Mahouna, September 1919 (V. Faroult).

Mr. Oberthür has treated this as a dwarf form of flava, but besides the differences in marking, Sir George Hampson, who has carefully examined specimens, tells me it belongs to a different section of the genus.

The British Museum has 1 & Guelt-es-Stel ex Tring Museum.

80. Athetis scotoptera (Püngl.).

Caradrina scotoptera Püngler, Iris, vol. xxviii. p. 47. No. 19. pl. iii. f. 18 (1914) (Jerusalem).

This species is not recorded by Mr. Oberthür.

We have at Tring 2 ♂♂, 3 ♀♀ from Environs de Batna (Nelva coll.); Forêt de Tenira, October 1918 (P. Rotrou); Sidi-bel-Abbès, September 1917 (M. Rotrou).

81. Athetis jacobsi Rothsch.

Athetis jacobsi Rothschild, Novit. Zool. vol. xxi. p. 335. No. 190 (1914) (Guelt-es-Stel).

The series at Tring consists of 288 specimens from Guelt-es-Stel, September—October 1912–1913 (V. Faroult); Forêt de Tenira, October 1918 (P. Rotrou); Euvirons de Batna (Nelva coll.); Metlili, September 1917 (V. Faroult); El Mahouna, September 1919 (V. Faroult).

82. Athetis clavipalpis (Scop.).

Phalaena clavipalpis Seopoli, Entom. Car. p. 213 (1763) (Carniola).

Mr. Oberthür quotes this under Schiffermüller's name, because Guenée did so, but both Fabricius' name of quadripunctata and clavipalpis of Scopoli are older.

In my account of the Lepidoptera of Guelt-es-Stel in 1914 I was misled by Mr. Warren's account of this insect in Seitz, and kept the small specimens apart as a distinct species under the name grisea, but they are only dwarf individuals of clavipalpis, and if distinguished at all must stand as ab. minor. As grisea Rott. is only a synonym of clavipalpis and dates from 1776, grisea Eversm. 1848 must stand as cinerascens Tengstr.

The Tring series from Mauretania consists of 677 specimens from Biskra, March 1908—April 1914 (W. R. and E. H.); Hammam R'hira, May 1908—May 1913 (W. R., E. H., and K. J.); Blida les Glacières, June 1908 (W. R. and K. J.); Environs d'Alger, June 1908 (Dr. Nissen); Djebel Cheddar, Mazagan, April 1902, and Seksawa, April—May 1905, Morocco (W. Riggenbach); Guelt-es-Stel, April—October 1912—1913 (W. R. and K. J., and V. Faroult); Sidi-bel-Abbès, June—October 1917 (M. Rotrou); Perrégaux, October 1915 (V. Faroult); Aïn Sefra, May 1915 (V. Faroult); Lalla Marnia, May—October, 1914 (V. Faroult); Masser Mines, May 1914 (V. Faroult); Hammam Meskoutine, April—May 1914 (W. R., E. H., and K. J.); Environs de Batna (Nelva coll.); Aïn Draham, September 1911 (V. Faroult); Bou Saada and Tilghemt, April 1912 (V. Faroult); Khenchela, May 1912 (W. R. and K. J.); Sebdou June, Sidi Djilali September, Forêt de Tenira August 1918 (P. Rotrou); El Mahouna, September 1919 (V. Faroult).

In British Museum, 1 & El Kantara, April 1913, P. A. Buxton.

83. Laphyma exigua (Hübn.).

Noctua exigua Hübner, Europ. Schmett. Noct. f. 362 (1808).

Of this very cosmopolitan insect the Mauretanian series at Tring consists of 477 specimens from Guelt-es-Stel, April—November 1912-1913 (V. Faroult); El Kantara, June 1909 (Sidi Brahim); Environs d'Alger, May 1906-1908 (W. R., K. J., and E. H., and Dr. Nissen); Seksawa April 1905, Mazagan June 1900-May 1902, Rahama, S.E. of Mazagan, May 1903 (W. Riggenbach); Hammam R'hira, May 1908-June 1916 (W. R., E. H., and K. J., and Faroult); Colomb Bechar, February 1912 (V. Faroult); Laghouat March, Tilghemt April 1912, Bou Saada April-May 1911-1912 (V. Faroult): Ghardaïa, April 1911 (W. R. and E. H.); North of El Golea, South Oued Mya, Aïn Guettera, and In Salah and Igosten Tidikelt Oases, March—April 1912 (Hartert and Hilgert); Khenchela, May 1912 (W. R. and K. J.); Blida, December 1915 (Faroult); Oued Nça and Sands of El Arich, June 1912 (Hartert and Hilgert); Environs de Setif, 1911 (V. Faroult); Oued Hamidou, June 1912 (V. Faroult); Sidi-bel-Abbès, June-August 1917 (M. Rotrou); Biskra, April 1908–1914 (W. R. and E. H.); Masser Mines, June 1914 (V. Faroult); Perrégaux, October 1915 (Faroult); Ain Sefra, April 1913-July 1915 (W. R. and E. H., and Faroult); Lalla Marnia and Moroccan Frontier, April-May 1914 (Faroult); Temassinin, Amgid, Oued Gif Aman, Oued Dehin, and El Mesrane, Hoggar Country, November 1913-March 1914 (Geyr von Schweppenburg); Sidi Ferruch, November 1911 (Théry); Environs de Batna, 1911-1914 (Nelva coll.); Hammam Meskoutine, April-May 1914 (W. R., E. H., and K. J.); Ain Draham, September 1911 (V. Faroult); Oued Abbou, Timassinin, I-n-Kelemet, 30 kil. N. of Amgid, Amgid, Temenaiin, Oued Ag'elil, Oued Dehin, Oued Gif Amdu, January-March 1914 (Geyr von Schweppenburg); El Mahouna, June 1919 (V. Faroult).

The British Museum has 1 ♀ El Kantara, April 1913, P. A. Buxton.

84. Prodenia litura (Fabr.).

Noctua litura Fabricius, Syst. Entom. p. 601 (1775) (East Indies).

Of this widespread species I have from Algeria 164 specimens, from Perrégaux, September—October 1915; El Kantara, El Outaya, August 1917 (V. Faroult); Biskra, March—June 1908–1912 (Hartert and Hilgert, W. R., and Faroult); Sidi-bel-Abbès, August—September 1917 (M. Rotrou).

Mr. Oberthür employs Herrich-Schäffer's name retina for this species because he first figured it.

85. Ulochlaena hirta (Hübn.).

Noctua hirta Hübner, Europ. Schmett. Noct. f. 591 (1827).

Of this species I have only received 1 ♀ from Mauretania, all the rest are ♂♂. The Tring series numbers 196 Algerian specimens from Environs de Batna (Nelva, Faroult, and Staudinger); Bordj-ben-Anéridj, October 1912 (V. Faroult); Aflou, October 1916 (V. Faroult); 1♀ Hammam R'hira, March 1916 (V. Faroult).

The Q is flightless.

86. Derthisa trimacula (Schiff. & Den.).

Bombyx trimacula Schiffermüller and Den. Ank. Syst. Werk. Schmett, Wienergeg. p. 59 (1775) (Vienna).

This is one of the most variable of known licterocera, and a number of individual forms have received names, among them ab. hispana Boisd. grey with sharp dark pattern, ab. dentimacula Hübn. same colour but dark marking reduced, ab. glaucina Esp. uniform rufous, ab. tersa Schiff. yellow dark marks in cell only, ab. gruneri Boisd. == albida Oberth. same only white, ab. tersina Stdgr. same only grey, ab. unicolor Dup. entirely yellow or buff.

We have at Tring from Mauretania 1,191 specimens from Guelt-es-Stel, September—November 1912–1913 (V. Faroult); Batna (Nelva coll., Staud. and Faroult); Bordj-ben-Anéridj, October 1912 (V. Faroult); Environs de Sétif, 1911 (V. Faroult); Lambiridi, October 1910 (V. Faroult); Perrégaux, October 1915 (V. Faroult); Aflou, September 1916 (V. Faroult); Forêt de Tenira, October 1918 (P. Rotrou); Sidi-bel-Abbès, October 1917 (M. Rotrou).

In the British Museum are 1 δ , 1 \circ Batna, Staudinger and Bang-Haas (ab. albida).

87. Grammoscelis magnifica (Rothsch.).

Derthisa magnifica Rothschild, Novit. Zool. vol. xxi. p. 328. No. 145 (1914) (Guelt-es-Stel).

Sir George Hampson pointed out to me that although this fine insect was a true Cucullid, it was not, as I thought, a *Derthisa* but a *Grammoscelis*.

The series at Tring consists of 67 &\$\frac{1}{2}\$, 25 \$\pi\$ from Guelt-es-Stel, October—November 1913 (V. Faroult); El Mesranc, November 1913 (V. Faroult); **Perré**gaux, November 1915 (V. Faroult); Bordj-ben-Anéridj October 1912, Medjez October 1911 (V. Faroult).

88. Aglossestra mariae-ludovicae (D. Lucas).

Hadula mariae-ludovicae Daniel Lucas, Bull. Soc. Entom. France, 1914, p. 311 (Tunis). Derthisa affinis Rothschild, Novit. Zool. vol. xxi. p. 328. No. 146 (1914) (Guelt-es-Stel).

My description appeared in October, while that of Monsieur Daniel Lucas was published in June, so his name has priority.

This species belongs to the genus Aglossestra of the subfamily Hadeninae. 1 & Guelt-es-Stel, October 1913 (V. Faroult).

THE GENUS Heliophobus Boisd.

Mr. Oberthür, following Guenée, makes use of the genus *Heliophobus* Boisd. and puts into it *hispida* Hübn.; *seillae* Chrét.; *pierretii* Oberth. (nec Bugnion); *messaouda* Oberth.; and *orana* Oberth. (nec Lucas): a regular olla podrida.

Neither Mr. Oberthür nor the other authors who have used *Heliophobus* should have done so, as Boisduval himself states (*Europ. Lepid. Ind. Meth.* 1829, p. 69) that it is another name for *Hadena* Treitschke.

Of the 5 species put in it by Mr. Oberthür, hispida Hübn. and scillae Chrét. belong to the genus Leucochlaena of the subfamily Cuculliinae; messaouda Oberth. and orana Oberth. (nec Lucas) belong to the genus Euxoa of the subfamily Agrotinae; and pierreti Oberth. (nec Bugnion) belongs to the genus Pseudopseustis of the subfamily Zenobiinae (= Acronyctinae).

89. Leucochlaena oditis (Hübn.).

Noctua oditis Hübner, Europ. Schmett. Noct. ff. 694, 695 (1822).

There appear to be two forms of this species in Algeria, a small paler form, and a large dark form, but they do not seem locally constant and intergradations occur.

The series at Tring consists of 151 specimens from Guelt-es-Stel, September—November 1912–1913 (V. Faroult); Aflou, September 1916 (V. Faroult); Forêt de Tenira, Oetober 1918 (P. Rotrou); Ain Draham, September 1911 (V. Faroult); Batna (Nelva coll.); El Mesrane, November 1913 (V. Faroult); Sidibel-Abbès, Oetober 1917 (M. Rotrou); El Mahouna, September 1919 (V. Faroult).

90. Leucochlaena scillae (Chrét.).

Heliophobus scillae Chrétien, Le Naturaliste, vol. x. p. 92 (1888) (Bône).

26 ♂♂ El Mahouna, September 1919 (V. Faroult). I have only 1♂ specimen of the ab. datini Oberth. 1 ♂ Aïn Draham, October 1911 (V. Faroult). In the British Museum there is 1♂ Bône, Abbé de Joannis.

[Euxoa pierretii (Bugnion).

Episema pierretii Bugnion, Ann. Soc. Entom. France, 1837. p. 441. pl. 16. f. 3 (Egypt). Heliophobus marsdeni Bethune Baker, Trans. Entom. Soc. Lond. 1894. p. 40. pl. i. f. 9 (Egypt).

This and the next species form a striking example of the fallacy of Mr. Oberthür's dictum "Pas de bonne figure, pas de nom valable," for Monsieur Bugnion gives an excellent figure of the insect afterwards described by Bethune Baker as marsdeni and which is an Agrotid of the genus Euxoa, and yet both Mr. Oberthür and Mr. Culot describe and figure as pierretii Bugnion a totally different insect afterwards described as Taeniocampa tellieri by Daniel Lucas, and which belongs to the subfamily Zenobiinae. Euxoa pierretii, as far as I can discover, has not yet been taken in Mauretania.]

91. Pseudopseustris tellieri (D. Lucas).

Taeniocampa tellieri Daniel Lucas, Bull. Soc. Entom. France, 1907, p. 196 (Gafsa).
Heliophobus pierretii Culot (nee Bugniou), Noct. et Géom. d'Eur, pt. i. vol. i. p. 174. pl. 32. f. 6 (1913)
(Biskra).

Harpagophana diacrisioides Rothschild, Novit. Zool. vol. xxi. p. 326. No. 130 (1914) (Guelt-es-Stel).

This is the insect identified by Messieurs Oberthür and Culot as Euxoa pierretii (Bugnion), but Mr. Culot has gone further and figured the same insect twice, once under the name of pierretii, and once under its true name of tellieri. Then unfortunately I also made a stupid error of negligence and redescribed it once again.

The Tring Museum possesses 3 specimens: 1 3, 1 \(\text{Cuelt-es-Stel}, \text{October} \)
1912-1913 (V. Faroult); 1 \(\text{Cl Mesrane}, \text{November 1913} \) (V. Faroult).

In the British Museum there is 1 & Batna, Staudinger and Bang-Haas.

92. Leucochlaena orana (Lucas). (Pl. XV. ff. 27, 28.)

Episema orana Lucas, Expl. Scient. d'Algérie, pt. iii. p. 384. pl. 3. f. 7 (1849) (West Algeria).

Here again is shown the fallacy of insisting that figures are everything. Messrs. Oberthür and Culot have figured and described under the name of *Heliophobus orana* (Lucas) an insect which is not only not *orana* but belongs to a very different subfamily; and yet Lucas gives a recognisable figure.

The series at Tring contains 7 & 3, 3 & . 1 & Oudjda, Morocco November 1914, 1& Lalla Marnia December 1914, 1& La Macta September 1915, 4 & 3, 3 & Perrégaux October 1915 (Victor Faroult).

93. Euxoa noctambulatrix (Chrét.). (Pl. XV. f. 29.)

Cladocerotis noctambulatrix Chrétien, Ann. Soc. Entom. France, p. 502 (1910) (Gafsa). Cladocera orana Oberth. (nec Lucas), Etud. Lépid. Comp. fasc. vi. p. 332, pl. exxviii. f. 1139 (1912) (Géryville).

This insect, which both Oberthür and Culot figure as orana, is an **Agrotid** and **not a Cucullid**, as the true orana is. Among minor differences the Q has abortive wings, while the Q of true orana is full winged, like the Q. It is curious that at the same time as Mr. Oberthür declares his orana to be an aberration of Chrétien's noctambulatrix he figures them under the two names, and actually puts them in **two different genera**, Cladocerotis and Cladocera!!!

I quote this insect temporarily under Chrétien's name noctambulatrix, because I have not been able to compare my specimen with Spanish ones, of which none are in England; I feel sure, however, that when they can be compared they will prove that this insect is the same as Heliophobus boetica Boisd. Should this prove the case, the species would have to stand as Euxoa boetica Boisd.

1 & Sidi Ferruch (Théry coll.); 1 & Sebdou, September 1908 (P. Rotrou).

94. Euxoa messaouda messaouda (Oberth.).

Luperina messaouda Oberthür, Etud. d'Entom. livr. ix. p. 39. pl. iii. f. 3 (1884) (Sebdou).

This species was abundant at Guelt-es-Stel.

The series at Tring consists of 518 specimens from Guelt-es-Stel, October—November 1912–1913 (Victor Faroult); Aflou, September—October 1916 (V. Faroult); Mazagan, Morocco, September 1903 (W. Riggenbach).

Among the Guelt-es-Stel series are several 33 in which the red is quite absent: these agree absolutely with the Spanish form messaouda matritensis Vasq. This demonstrates the fact that an insect can occur sporadically among the typical form as an aberration, and yet in another locality assume the status of a distinct subspecies.

95. Omphaloscelis polybela (de Joan.).

Euxoa polybela de Joannis, Bull. Soc. Entom. France, 1903. p. 28 (Philippeville).

The Tring Museum possesses 306 specimens from Environs de Batna, September—October 1910–1915 (Nelva, V. Faroult, Staudinger); Bordj-ben-Anéridj, October 1912 (V. Faroult); Sidi-bel-Abbès, November 1917 (M. Rotrou); Forêt de Tenira, October 1918 (P. Rotrou).

In the British Museum are 1 ♂, 1 ♀ Batna, Staudinger and Bang-Haas.

96. Cladocerotis optabilis (Boisd.).

Heliophobus optabilis Boisduval, Icon. Lépid. Eur. vol. ii. pl. 74. ff. 2, 3 (1832).

The ground-colour and the markings vary considerably, the latter being sometimes lemon-yellow, sometimes grey, and sometimes almost pure white; all the specimens I have seen from Sicily are like the last named, but I have a number from Algeria quite identical.

We have at Tring 308 specimens from Environs de Batna, September—October, 1910–1915 (Nelva, V. Faroult, and Staudinger); Sidi-bel-Abbès, September—October 1917 (M. Rotrou); Forêt de Tenira, October 1918 (P. Rotrou); Perrégaux, October 1915 (V. Faroult); Lalla Marnia, November 1914 (V. Faroult); Guelt-es-Stel October—November 1912–1913, Aflou October 1916 (V. Faroult).

The genus *Cladocera* Rmb. is preoccupied, so Sir George Hampson made the genus *Cladocerotis* for this species.

In the British Museum are 3 33, 1 \, Guelt-es-Stel ex Tring Museum.

97. Euxoa rugifrons (Mab.).

Agrotis rugifrons Mabille, Bull. Soc. Entom. France, 1888, p. 42 (Gabes).
Agrotis bledi Chrétieu, Ann. Soc. Entom. France, 1910, p. 500 (Gafsa).
Agrotis urbana Bang-Haas, Iris, vol. xxv. p. 142, pl. vi. fig. 7 (1912) (Batna).

This species is very common in Algeria. Our series at Tring consists of 564 specimens from Guelt-es-Stel, October—November 1912–1913 (V. Faroult); Aflou, September—October 1916 (V. Faroult); Environs de Batna, September—October 1909–1914 (Nelva coll.); Bordj-ben-Anéridj, October 1912 (V. Faroult); Medjez October 1911, Aflou October 1916 (V. Faroult).

Neither Mr. Oberthür nor Mr. Culot mention the name rugifrons Mab.

98. Euxoa capsensis Chrét.

Euxoa capsensis Chrétien, Ann. Soc. Entom. France, 1910, p. 497 (Gafsa). Euxoa muriicolor Rothschild, Novit. Zool. vol. xxi. p. 319. No. 83 (1914).

I have only received this species from Guelt-cs-Stel. 80 Guelt-es-Stel, October 1912-1913 (V. Faroult).

99. Euxoa lasserrei (Oberth.).

Luperina lasserrei Oberthür, Etud. d'Entom. Fasc. vi. p. 86. pl. xi. ff. 13, 14 (1881) (Magenta, Sebdou).

The Tring series contains 240 specimens from Guelt-es-Stel, October—November 1912–1913 (V. Faroult); Les Pins, September 1918 (M. Rotrou); Forêt de Tenira, October 1918 (P. Rotrou); Batna, November 1910–1911 (V. Faroult and Nelva); El Mesrane November 1912, Aflou September 1916, Aflou October 1916 (V. Faroult); Tunis (Max Bartel).

The British Museum has 1 3 Mauretania.

100. Euxoa obesa lipara (Rambur).

Agrotis lipara Rambur, Ann. Soc. Entom. France, 1848, p. 68 (Algeria).

Sir George Hampson places *lipara*, without comment, as a synonym of *obesa*, while Mr. Oberthür treats it as a distinct species. The truth, however, lies in between, for *lipara* is a southern form of *obesa* and must be treated as a subspecies.

Our Tring series totals 497 specimens from Guelt-es-Stel, September—October, 1912–1913 (V. Faroult); Environs de Batna, Lambessa, September, October 1909–1914 (Nelva, Staudinger); Sebdou, September 1918 (P. Rotrou); Tlemcen, 1915 (P. Rotrou); Sidi-bel-Abbès, September 1917 (M. Rotrou); Aflou, October 1916 (V. Faroult).

101. Euxoa crassa (Hübn.).

Noctua crassa Hübner, Samml. Eur. Schmett. ff. 151, 152, 560 (1881).

Treitschke (Schmett. Eur. vol. v. pt. i. p. 166. No. 19) gives a long explanation of how the erroneous identification of the present species with tritici Linn. arose and complains that Hübner made matters worse by giving three figures of crassa and calling f. 151 tritici Linn. Sir George Hampson has caused still further difficulty by quoting crassa as of Treitschke, while its author was Hübner, which is evident from Treitschke's own quotations. Sir George omits the ff. 151 and 152 altogether.

Sir George Hampson, Mr. Oberthür, Mr. Culot, and most of the authors since Treitschke have united specifically crassa Hübn. and lata Treit., in some cases because they thought they were representative forms, in others because they considered them simply aberrations. Mr. Culot has committed a further error, influenced by Mr. Oberthür's statements: he figures as var. golickei Ersch. a Castille specimen lent by Mr. Oberthür.

E. golickei was described from Turkestan, and has the heavily plumed antennae characteristic of lata, of which it is undoubtedly a subspecies.

Moreover, lata never occurs on the mainland of Europe, so Mr. Oberthür has confounded a pale aberration of crassa with golickei, which latter is purely Asiatic.

Now, all the authors who have united crassa and lata have drawn attention to two differences characteristic of lata; one, the thicker and more heavily pectinated antennae, holds good, but the second, the brighter and more striking wing pattern, is not a constant character.

There are, however, three characters which specifically separate *crassa* and *lata* quite definitely.

Firstly, the orbicular stigma in both series of *lata* has a distinct whitish ring and stands out distinctly, while in *crassa* this ring is absent and the orbicular appears almost obsolete.

Secondly, in $\ \ \,$ crassa the hindwing is white shading into grey towards the termen, and there is **no trace** of a discocellular stigma; while in $\ \ \,$ lata the hindwing is brown, sometimes paler, or even whitish in the basal one-fourth, but **always** with a **distinct** discocellular stigma, except in a very few extreme melanistic individuals which are otherwise easily recognisable as lata.

Thirdly, the 33 of crassa have short pectinations to the antennae, and at the distal end fully 4-5 mm. with no pectinations at all; on the other hand, in lata the antennae have long pectinations (in the proportion of 16 to 9), and only the last three or four joints are without pectinations.

Our Mauretanian series of *crassa* consists of 49 33, ≥0 ♀♀ from Sidi-bel-Abbès, September—October 1917 (M. Rotrou); Sebdou, September 1918 (P. Rotrou).

This species (crassa) appears entirely confined to West Algeria (Province Oran), while lata occurs all over Algeria and portions of Tunis and Morocco.

101a. Euxoa lata (Treit.).

Agrotis lata Treitschke, Schmett. Eur. vol. x. pt. ii. p. 24 (1835) (Sicily).

This has since the time of Treitsehke always been treated as a local race or aberration of crassa, which is erroneous.

It is easily distinguished by the orbicular having a pale ring in both sexes, in the antennae of the δ being much more strongly pectinated, and in the dark hindwings with a discocellular stigma in the Q.

The Tring series from Mauretania contains 63 &\$\frac{1}{2}\end{3}\$, 59 \$\pi\partial \text{from Environs}\$ d'Alger (Dr. Nissen); Mazagan, Morocco, September 1902 (W. Riggenbach); Rabat, Morocco (A. Théry); Messer September, Sidi-bel-Abbès September 1917 (M. Rotrou); Aïn Draham, Tunisia October 1911, Perrégaux October 1915 (V. Faroult); Belvedère, Tunis, September 1915 (M. Blane); Forêt de Tenira, September 1918 (P. Rotrou); El Mahouna, September 1919 (V. Faroult).

102. Euxoa vestigialis (Rott.).

Noctua vestigialis Rottemburg, Naturf. vol. viii. p. 107 (1776).

This appears to be unrecorded from Mauretania.

1 \(\text{Lambessa}, July 1914 (A. Nelva).

I have seen a second ♀ from Thala, Tunisia, taken by Mr. Daniel Lucas.

103. Euxoa spinifera (Hübn.).

Noctua spinifera Hübner, Samml. Eur. Schmett. Noct. f. 389 (1827).

Our Tring series contains 200 specimens from Guelt-es-Stel, May—November 1912–1913 (V. Faroult); Ain Draham, September 1911 (V. Faroult); Sidi-bel-Abbès, July—September 1916–1917 (M. Rotrou); Forêt de Tenira May, Sebdou June 1918 (P. Rotrou); El Kantara, August 1917 (V. Faroult); Environs de Setif, 1911 (V. Faroult); Bou Saada March 1912, Laghouat March 1912 (V. Faroult); El Ou Saya August 1918, Tilghemt April 1912 (V. Faroult); Biskra, March—April 1908–1911 (W. R. and E. H.); Batna (Nelva and Faroult); Oued Hamidou, June 1912 (V. Faroult); South Oued Mya April, Bordj Saada February 1912 (Hartert and Hilgert); Rabat, Moroceo (A. Théry); Environs de Batna (A. Nelva); Messer, September 1917 (M. Rotrou); Blida, November 1915 (V. Faroult); Hammam R'hira, May—June 1908–1916 (W. R. and K. J., and Faroult); Mazagan February—May 1902–1903, Seksawa, Moroceo April 1905 (W. Riggenbach); Environs d'Alger, May 1908 (W. R. and K. J.).

In the British Museum are 2 ♂♂, 1 ♀ Hammam-es-Salahin, March 1904, Lord Walsingham.

[Euxoa spinifera hodnae (Oberth.). (Pl. XVII. ff. 15, 16.)

Agrotis hodnae Oberthür, Etud. Entom. fasc. iii. p. 45. pl. v. f. 8 (1878) (Bou Saada).

The large series of *spinifera* collected all over Algeria since 1878 have proved that in Mauretania *hodnae* is only a sporadic aberration of *spinifera*, but in Egypt it has developed into the local race and must stand as a subspecies as above.]

104. Euxoa hoggari sp. nov. (Pl. XVII. ff. 12-14.)

This is the insect erroneously named hodnae in 1915 (see Ann. Mag. Nat. Hist. (8) xvi. p. 250. No. (16).).

δ♀. Ground-colour creamy white. Antennae brown with pale grey serrations; head and thorax whitish, more or less closely sprinkled with minute brown streaks; abdomen cream buff; anal tuft buff.

Forewing cream-white, here and there streaked with pale wood brown, basal one-sixth of costal area with dense dark brown markings, a brown wedge in cell, reniform and spot below dark brown, a pale wood brown irregular band across wing enclosing reniform, an oval stigma on vein 2 joined by a deeply zigzag blackish line to inner margin, fringe white, a marginal line of dark dots and 2 black arrow heads above veins 5 and 6. Hindwing white washed with cream, creambuff on abdominal area; some specimens are strongly suffused with brown all over.

Length of forewing, 315-19 mm.; expanse, 35-43 mm. Length of forewing, 216-22 mm.; expanse, 37-50 mm.

Habitat, 5 33, 7 99 Oued Abou January, Oued Ag'elil March, Oued Tamoudat March, 20 kil. N. of Idelès March 1914, N. of the Hoggar Mts., Sahara (Geyr von Schweppenburg); Bordj Chegga, February 1912 (Hartert and Hilgert).

105. Euxoa doufanae (Oberth.).

Agrotis doufanae Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 90. pl. xdii. ff. 4072-4073 (1919) (Col de Doufana Aurès).

I have received 80 specimens of this rare species.

1 ♂ Aïn Sefra, May 1913 (W. R. and E. H.); 1 ♀ Mecheria May 1918, 1 ♂ El Hamel May 1912 (Victor Faroult); 57 ♂♂, 1 ♀ Bou Saada May, 14 ♂♂, 5 ♀♀ Guelt-es-Stel May—June 1915 (V. Faroult). This was wrongly identified by me in 1914 as mauretanica.

166. Agrotis suffusa (Schiff. & Den.).

Phaluena suffusa Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 80 (1775) (Vienna).

Noctua ypsilon Rottemburg, Naturf. vol. ix. p. 141 (1776).

This widely spread insect occurs all over Mauretania. We have 311 specimens from Mauretania from Guelt-es-Stel, April, May, October 1913 (V. Faroult); Timassinin January, I-n-kelemet February, 30 kil. N. of Amgid February, Amgid February, Ain Tahart February, Oued Ag'elil March, 20 kil. N. of Idelès March 1914, north of the Hoggar Mts., Sahara (Geyr von Schweppenburg); Sebdou, September 1918 (P. Rotrou); Oued Nça, April 1914 (Hartert and Hilgert); Environs de Batna, 1911–1914 (Nelva coll.); Biskra, March—April 1908–1911 (W. R. and E. H.); Colomb Bechar February, Tilghemt April 1912 (V. Faroult); Oran, April 1913 (W. R. and E. H.); Bou Saada April, Bordj-ben-Anéridj October 1912 (V. Faroult); Sidi-bel-Abbès, September—October 1917 (M. Rotrou); Ain Draham August—September 1911, Aflou October 1915, Hammam R'hira, May 1916 (V. Faroult).

107. Lycophotia margaritosa (Haw.).

Noctua margaritosa Haworth, Lepid. Brit. p. 218 (1809).

Mr. Oberthür quotes Engramelle as the author, but Ernst and Engramelle when describing species not yet described only gave **French** names to their insects, and therefore they are quite inadmissible as authors, and the names given to their species by Hübner and others must be quoted under their respective authors. As, however, that part of Hübner containing his saucia was published in 1827 and Haworth's margaritosa in 1809, this latter name must be used for the present species.

Although fairly widespread in Mauretania, it is much rarer than the last.

We have 86 specimens from Aïn Draham, August—September 1911 (V. Faroult); Oued Hamidou, June 1912 (V. Faroult); Hammam R'hira, May—June 1908–1917 (V. Faroult, and W. R. and K. J.); Guelt-es-Stel, May—October 1913 (V. Faroult); Sidi-bel-Abbès, September 1917 (M. Rotrou); Biskra March 1909, El Kantara May 1909 (W. R. and E. H.); Blida les Glacières, May 1905—June 1908 (W. R., K. J., and Dr. Nissen); Environs d'Alger, May—June 1906–1912 (W. R. and K. J. and Dr. Nissen); Mazagan, Morocco, January—June 1900–1903 (W. Riggenbach); Bou Saada April 1911, Djebel Aissa May 1915 (V. Faroult); Environs de Batna (Nelva coll.); Tlemcen, August 1917 (M. Rotrou).

108. Euxoa trux trux (Hübn.).

Noctua trux Hübner, Samml. Eur. Schmett. Noct. ff. 723, 725, 770 (1826).

This is a very variable insect, the aberrations terranea Frey, amasina and olivina Stdgr. occur in Mauretania quite abundantly. The subspecies lunigera Steph. appears to be confined to Great Britain.

Our series from Mauretania consists of 562 specimens from Guelt-es-Stel, September—October 1919 (V. Faroult); Aflou, September 1916; Aïn Sefra July 1915, Pérregaux October 1915 (V. Faroult); Sidi-bel-Abbès September 1917, Les Pins June 1918 (M. Rotrou); Lambessa October 1915, Batna 1909–1915 (A. Nelva coll.); Hammam R'hira July 1916, Mecheria May 1918 (V. Faroult); Sebdou July, Forêt de Tenira September 1918 (P. Rotrou); El Mahouna, September 1919 (V. Faroult).

In the British Museum, 2 33 Batna, Staudinger and Bang-Haas.

109. Euxoa segetum (Schiff, and Den.).

Phalaena segetum Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. pp. 81, 252. ff. 3 a. b. (1775) (Vienna).

Our Mauretanian series of this common insect numbers 764 specimens from Guelt-es-Stel May—November 1912–1913, Aflou October 1916 (V. Faroult); Colomb-Bechar March, April 1912, Bou Saada April 1912, Tilghemt April 1912 (V. Faroult); Mazagan, Morocco, Imitanaut, May—July 1900–1904 (W. Riggenbach); Khenchela, May 1912 (W. R. and K. J.); Jakouren Kabylie June 1909, El Kantara March 1909 (W. R. and E. H.); Batna, June—July 1912–1915 (Nelva coll.); Aïn Draham, July—September 1911 (V. Faroult); Hammam R'hira, July 1916 (V. Faroult); Sidi-bel-Abbès, September—October 1917 (M.

Rotrou); Lambessa, 1912 (Nelva coll.); Alger, January 1914 (V. Faroult); Djebel Antar, May 1918 (Faroult); Biskra, March—April 1908, 1914 (W. R. and E. H.); Setil, S. of Biskra, March 1917 (V. Faroult); Djebel Zaccar Miliana, June—August 1916 (V. Faroult); Bordj-ben-Anéridj October, Tilghemt April 1912 (V. Faroult); Laghouat, March 1912 (V. Faroult); Idelès Haggar Mts., March 1914 (Geyr von Schweppenburg); Sebdou, July 1918 (P. Rotrou).

In British Museum, 1 & Mogodor, Leech coll.

109a. Euxoa cos cycladum (Stdgr.).

Agrotis cos var. cycladum Staudinger, Hor. Soc. Entom. Ross. vol. vii. p. 121. t. 1. f. 9 (1870) (Naxos).

We have received 1 Q of this species from Mauretania; Mr. Oberthür records a series of 30 from Lambessa.

1 ♀ Guelt-es-Stel, May 27, 1913 (V. Faroult).

110. Euxoa rotroui sp. nov. (Pl. XVII. f. 11.)

This new species is exactly intermediate in appearance between $Euxoa\ radius$ and $E.\ trux.$

3. Antennae serrate, brown; head pale pinkish mauve; tegulae darker with dark brown edge; patagia and rest of thorax pinkish mauve; abdomen wood grev.

Forewing pinkish mauve, basal one-fourth above vein 1 dark brownish mauve, an oblique transverse convex dentate line of same colour separated from this deeper coloured patch; a darker brown mauve patch surrounding reniform stigma from which a shadow line runs straight to inner margin; post-median convex dentate blackish line; post-discal area clouded with brownish mauve.

Hindwing white with nervures, costal and abdominal areas suffused with mouse-grey.

Length of forewing, 16 mm.; expanse, 37 mm.

1 & Sidi-bel-Abbès, May 1918 (M. Rotrou) ; 1 & Oran, April 1913 (W. R. and E. H.).

111. Euxoa constanti (Mill.).

Agrotis constanti Millière, Icon. vol. i. p. 165. pl. 9. ff. 1, 2 (1860) (Ardèche).

This species is very rare in Algeria. I have only 5 Mauretanian examples. 1 3 Guelt-es-Stel, October 1912 (Victor Faroult); 4 33 Environs de Batna, October 1912-1914 (A. Nelva coll.).

112. Euxoa eos (Oberth.).

Agrotis constanti eos Oberthür, Etud. Lépid. Comp. fasc. vii. p. 672. pl. exci. Nos. 1841, 1847 (1913) (Aflou).

This species was supposed to be the Algerian representative of *constanti*, but Mr. Oberthür in Fasc xvi. altered his opinion, and accorded the insect specific rank. As I have received typical *constanti* with grey-clouded hindwings and creamy-buff forewings from Algeria, I feel sure he is right.

10 specimens Guelt-es-Stel, October 1912-1913 (V. Faroult).

113. Euxoa christophi (Stdgr.).

Agrotis christophi Staudinger, Berl. Entom. Zeit. 1870, p. 110 (Sarepta).

I have received 11 specimens of this species, 1 of which = ab. *lugens* Stdgr. and 1 an intermediate aberration.

6 ♂♂, 3 ♀♀ Environs de Batna, July 1911–1914 (A. Nelva coll.); 1 ♂ Khenchela, May 1912 (W. R. and K. J.); 1 ♂ Guelt-es-Stel, May 1913 (V. Faroult).

114. Euxoa tritici (Linn.).

Phalaena tritici Linnaeus, Faun. Suec. p. 320 (1761) (Sweden).

It is very strange to find this essentially northern insect inhabiting Southern Algeria, where however it must be very rare.

1 Q Metlili, N. of Laghouat, September 1917 (V. Faroult).

115. Euxoa obelisca (Schiff. & Den.).

Phalaena obelisca Schiffermüller aud Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 80 (1776) (Vienna).

Euxoa obelisca and E. bugeaudi are very closely allied, and when among a series of obelisca abnormal specimens occur, it is difficult to assign them correctly.

The Tring series contains 79 Mauretanian examples from Guelt-es-Stel, October—November 1912–1913 (V. Faroult); Environs de Batna and Lambessa, October 1911–1915 (A. Nelva coll.); Sidi-bel-Abbès, September—October 1917 (M. Rotrou); Forêt de Tenira, October 1918 (P. Rotrou).

116. Euxoa bugeaudi bugeaudi (Oberth.).

Agrotis bugeaudi Oberthür, Etud. Lépid. Comp. tasc. xvi. p. 94. pl. xdiii. Nos. 4080, 4081 (1919) (Aflou).

The series at Tring consists of 84 specimens from Guelt-es-Stel, October 1912–1913 (V. Faroult); Sidi-bel-Abbès, September—October 1917 (M. Rotrou); Sebdou May, Forêt de Tenira October 1918 (P. Rotrou).

117. Euxoa bugeaudi islyana (Oberth.).

Agrotis bugeaudi islyana Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 95. pl. xdiii. Nos. 4082, 4083 (1919) (Lambessa).

In the form from the Aurès Mts. the red colour is almost always absent, though similar grey specimens occur sporadically with the typical Central and West Algerian form.

The Tring series contains 91 Mauretanian specimens from Environs de Batna and Lambessa, 1911–1915 (A. Nelva coll.); El Mahouna, September 1919 (V. Faroult).

118. Euxoa hastifera abdallah (Oberth.).

Agrotis hastifera abdallah Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 94. pl. xdiii. Nos. 4078, 4079 (1919) (Lambessa).

I have received very few examples of this species.

5 33, 5 \leftrightarrows Environs de Batna and Lambessa, July—September 1910–1915 (A. Nelva and V. Faroult).

119. Euxoa mauretanica (Bang-Haas).

Agrotis mauretanica Bang-Haas, Iris, vol. xxiv. p. 36. pl. iii. f. 4 (1910) (Sud Oranais).

The series from Algeria at Tring contains 324 specimens from Tilghemt, April 1912 (V. Faroult); Ghardaïa, April 1911 (W. R. and E. H.); Bou Saada, April 1912 (V. Faroult); Oued Nça, April 1914 (Hartert and Hilgert).

In the British Museum are 1 ♂, 1 ♀ South Oran, Staudinger and Bang-Haas.

120. Euxoa robiginosa (Stdgr.).

Agrotis robiginosa Staudinger, Iris, vol. vii. p. 271 (1894) (Palestine).

Of this very rare insect I have received I specimen from Algeria. (1 3 from Palestine is in the British Museum and 1 \circ at Tring from the same country).

1 3 Environs de Batna (A. Nelva coll.). This is unique from Mauretania.

121. Euxoa powelli (Oberth.).

Agrotis powelli Oberthür, Etud. Lépid. Comp. 1asc. vi. p. 334. pl. exxviii. ff. 1146, 1147 (1912) (Géryville).

I have 11 Algerian specimens.

1 ♂, 10 ♀ from Guelt-es-Stel, May 1913 (V. Faroult); Aïn Sefra, May 1913 (W. R. and E. H.); Oued Hamidou, June 1912 (V. Faroult).

122. Euxoa cursoria (Hüfn.).

Phalaena cursoria Hüfnagel, Berl. Mag. vol. iii. p. 416 (1766).

Of this species also I have received a single specimen, unique for Mauretania. 1 \(\mathbb{P} \) Bou Saada, May 1912 (V. Faroult).

Euxoa distinguenda (Led.).

Agrotis distinguenda Lederer, Noct. Eur. p. 221 (1857) (Wallis and Altai).

I have not received this species from Mauretania. Mr. Oberthür records it from Lambessa.]

123. Euxoa oranaria (Bang-Haas).

Agrotis oranaria Bang-Haas, Iris, vol. xix. p. 133. pl. 5. f. 9 (1906) (Sud Oranais).

This is an extremely abundant and variable species.

The series at Tring numbers 1,084 from Guelt-es-Stel, April—June 1913 (V. Faroult); Bou Saada, March—May 1912 (V. Faroult); Aïn Sefra, May 1913–1915 (W. R. and E. H., and V. Faroult); Ghardaïa and Oued Nça, May—June 1912 (Hartert and Hilgert); El Mesrane June 1913, Tilghemt April 1912, Mecheria June 1918 (V. Faroult); Khenchela, May 1912 (W. R. and K. J.).

123a. Epipsilia simulatrix (Gey.).

Noctua simulatrix Hübner-Geyer, Samml. Europ. Schmett. Noct. f. 712.

I have only received two of this species from Mauretania. Mr. Oberthür records it from Bône under the name of nictymera Boisd.

1 ♂, 1 ♀ El Mahouna, May 1919 (V. Faroult).

124. Euxoa lucipeta (Schiff. & Den.).

Phalaena lucipeta Schiffermüller and Denis, Auk. Syst. Werk. Schmett. Wien Geg. p. 71 (1775) (Vienna).

I possess only 1 2 of this species taken by myself.

1 ♀ Blida les Glacières, June 1908 (W. R. and K. J.).

125. Lycophotia photophila (Guen.).

Agrotis photophila Guenée, Hist. Nat. Ins. Lépid. vol. v. Noct. vol. i. p. 302 (1852) (Bône).

Guenée described this insect from a Q, so if *ignipeta* Oberth, is really distinct it must always remain doubtful which of the two is the true *photophila*.

The series at Tring consists of 101 specimens. 42 33, 48 XX Ain Sefra, May—June, 1913-1915 (W. R. and E. H., and Faroult); 1 3 Msila, May 1915 (V. Faroult); 10 33 Oued Nça, April 1914 (Hartert and Hilgert).

[Lycophotisa ignipeta (Oberth.).

Agrotis ignipeta Oberthür, Etud. Entom. fasc. i. p. 45. pl. 4. f. 4 (1876) (El-May).

Mr. Oberthür and Mr. Culot describe this insect as having a similar wing pattern to photophila, but differing in the male in having the basal half of the antennae strongly pectinated; while the σ of photophila has simple cylindrical antennae. I have no specimen agreeing with this description, and from Mr. Oberthür's statement (Etud. Lépid. Comp. fasc. xvi. p. 98) he appears only to possess the σ type captured at El-May by M. Warion in 1868.]

126. Euxoa celsicola gueddelanea (Oberth.).

Agrotis celsicola var. gueddelanea Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 99. pl. xdiii. f. 4084 (1919) (Djebel Gueddelane, Lambessa).

I have only one pair of specimens from Algeria, but these are very much larger than any of the 65 specimens taken by myself and Dr. Jordan in 1908 at La Grave and Le Lautaret in the Hautes Alpes.

Expanse, 45 mm.; largest specimen from Le Lautaret, 37 mm.

1 ♂, 1 ♀ Sebdou, July 1918 (P. Rotrou).

127. Euxoa kaaba (Oberth.).

Agrotis kaaba Oberthür, Etud. Lépid. Comp. fasc. xvi. pp. 99. pl. xdiii. Nos. 4085, 4086 (1919) (Géryville).

I have one \mathcal{P} , which however is not so dark as the \mathcal{P} figured by Oberthür and has the hindwings as in his \mathcal{F} .

1 ♀ Batna (Nelva coll.).

128. Euxoa radius radius (Haw.).

Bombyx radius Haworth, Lep. Brit. p. 119 (1803).

This insect, which is exceedingly abundant in Mauretania, appears in two local subspecies, radius radius Haw. in Central and West Algeria and radius erythroxylea Treit. in Tunisia and East Algeria.

Our series of radius radius contains 700 specimens from Algeria and Morocco, from Biskra, February—April 1908-1916 (W. R. and E H., and Faroult); Bir

Djefair, south of Biskra, March 1909 (W. R. and E. H.); Environs d'Alger (Dr. Nissen); Mazagan and neighbourhood, Morocco, February—March 1902–1903 (W. Riggenbach); Bir Setil, south of Biskra, March 1917 (V. Faroult); Bordj Chegga, March 1917 (V. Faroult); Environs de Setif, 1911 (V. Faroult); Environs de Batna (Nelva coll.); El Mesrane November, Guelt-es-Stel April—November 1912–1913 (W. R. and K. J., and Faroult); Lalla Marnia March—April, Oudjda and Zoudj-el-Beghal, Morocco, November 1914 (V. Faroult); Sidi-bel-Abbès, September, October 1917 (M. Rotrou); Bou Saada March—May, Tilghemt April 1912, Aflou October 1916 (V. Faroult); Perrégaux, October 1915 (V. Faroult); Sebdou, May 1918 (P. Rotrou).

129. Euxoa radius erythroxylea (Treit.).

Noctua erythroxylea Treitschke, Schmett, Eur. vol. v. pt. iii. p. 31 (1825).

This insect which is a fixed local subspecies in Tunisia appears also sporadically as an aberration in Algeria, and in Sidi-bel-Abbès is the prevailing form. I have 26 specimens from Sidi-bel-Abbès, of which 21 are *erythroxylea*, 1 intermediate and 4 typical *radius*.

Euxoa radius erythroxylea comes as sole form as far west as Hammam Meskoutine, is the prevailing form at Batna, and occurs sporadically in other parts of Algeria. I have none from Morocco, all mine from there being r. radius.

The series at Tring from Aïn Draham to Hammam Meskoutine contains 150 specimens as follows: 113 Aïn Draham, September 1911 (Victor Faroult); 19 Souk Ahras April, 5 Hammam Meskoutine April 1914 (W. R. and K. J.); 13 El Mahouna, September 1919 (V. Faroult).

In addition to these we have at Tring sporadic specimens of this form as follows: 5 Batna (Nelva coll.); 1 Environs d'Alger, April 1913 (W. R. and E. H.); 1 Hammam R'hira, April 1912 (W. R. and K. J.); 2 Perrégaux, October 1915 (V. Faroult); 21 Sidi-bel-Abbès, September—October 1917 (M. Rotrou).

From Oran we have 5 \heartsuit of gigantic size and of the black aberration, which for the present I will name ab. major ab. nov. Length of forewing, 20 mm.; expanse, 46 mm. Length of largest \circlearrowleft erythroxylea, 17 mm.; expanse, 39 mm.

5 ♀ Oran Town, April 1913 (W. R. and E. H.).

Both in radius radius and radius erythroxylea the aberration with black-brown forewings occurs commonly.

130. Euxoa imperator (Bang-Haas).

Agrotis imperator Bang-Haas, Iris, vol. xxvi. p. 142. pl. vi. f. 6 (1912) (Biskra).

This fine species Mr. Oberthür considers an exaggerated form of melunura Koll. This is not the case, as imperator is a true Euxoa while melanura is a true Agrotis sensu Hampson and therefore widely separated.

We never found this species very abundant, and most of the material at Tring is Central Saharan.

We have 38 specimens from Aïn Sefra, May 1913 (W. R. and E. H.); Bou Saada May, Djebel Kerdada May 1911–1912 (V. Faroult); Biskra (Staudinger); north of El Golea May, Oued el Far, south of Fort Miribel May, South Oued Mya May, Central Sahara, 1912 (Hartert and Hilgert).

In the British Museum is 1 & Constantine, Staudinger and Bang-Haas.

131. Agrotis nona Oberth.

Agrotis nona Oberthür, Etud. Lépid. Comp. fasc. vii. p. 62. pl. cxci. ff. 1840, 1846 (1913) (Aflou).

I have only received this from Guelt-es-Stel. 33 Guelt-es-Stel, October—November 1913 (V. Faroult).

[Epilecta linogrisea lutosa (Stdgr.).

Agrotis linogrisea var. lutosa Staudinger and Rebel, Cat. Lepid. Pal. edit. iii. p. 135 (1901) (Andalusia),

I have never received this species from Mauretania. Mr. Oberthür received 1 specimen from Khenchela.]

132. Agrotis orbona (Hüfn.).

Phalaena orbona Hüfnagel, Berl. Mag. vol. iii. p. 304 (1767) (Berlin).

There is considerable confusion in our literature in connection with the two closely allied species we now call Agrotis orbona (Hüfn.) and Agrotis comes (Treitr.). This confusion has arisen because both species have received the names orbona and subsequa. A. orbona (Hüfn.) was called subsequa by Schiffermüller in the Wiener Verzeichniss (1775); A. comes (Treit.) was called orbona by Fabricius in the Mantissa Insectorum (1787) and subsequa by Esper in the Schmeterlinge Europas (1786). Guenée quotes Rottemburg, Naturforscher, vol. ix. (1776), as the author of his orbona, and as Rottemburg, in the place quoted, was criticising Hüfnagel's work, orbona of Guenée is certainly true orbona Hüfn.; while his subsequa and consequa appear doubtful. Mr. Oberthür, however, appears to have applied the name of orbona Rott.-Guen. to comes, if we may judge by the localities he gives and from his having many variable specimens; for while I have 31 specimens of comes from Mauretania from a number of localities, I have only two true orbona with the conspicuous black subapical spot.

1 & Guelt-es-Stel, October 1913 (V. Faroult); 1 & El Mahouna, September 1919 (V. Faroult).

133. Agrotis comes (Treit.).

Noctua comes Treitschke, Schmett. Eur. vol. v. pt. i. p. 254 (1825).

Triphaena orbona Oberthür (nec Hüfnagel), Etud. Lépid. Comp. fasc. xvi. p. 101 (1919) (Ain Draham, Lambessa).

This is much the more common of the two species, in fact after *pronuba* it is the commonest of the 6 "Yellow Underwings" found in Algeria.

The Mauretanian series at Tring consists of 32 specimens from Guelt-es-Stel, October—November 1912–1913 (V. Faroult); Aïn Draham and Tunis August—September 1911, Hammam R'hira June, north side of Djebel Zaccar August 1916 (V. Faroult); Batna (Nelva coll.); Sidi-bel-Abbès, June—September 1917 (M. Rotrou); Sebdou, June 1918 (P. Rotrou).

Mr. Warren calls orbona Hüfn. subsequa Schiff. and comes Treit. orbona Hüfn. in Seitz Grossschmetterlinge der Erde.

134. Agrotis pronuba (Linn.).

Phalaena pronuba Linnaeus, Syst. Nat. edit. x. p. 512 (1758) (Sweden).

This is very common in some parts of Mauretania, and as variable as in Europe.

The Mauretanian series at Tring comprises 211 specimens from Guelt-es-Stel, April—October 1912-1913 (V. Faroult); Environs de Batna, June—October 1911-1914 (Nelva coll.); Environs d'Alger, May 1908 (W. R. and E. H.); Hammam R'hira May—July 1916, Aïn Draham August—October 1911, El Hamel May 1912, Oued Hamidou June 1912, Bordj-ben-Anéridj October 1912, Bou Saada May 1912, Boghari May 1913, Tilghemt April 1912, Sidi Bou Médine June 1917 (Victor Faroult); Khenchela, May 1912 (W. R. and K. J.); Oran Town, April 1913 (W. R. and E. H.); Sidi-bel-Abbès June—September 1916—1918, Titen Yaya June 1915 (M. Rotrou); Lalla Marnia, December 1914 (V. Faroult); Mazagan, Morocco, October 1902 (W. Riggenbach); Sebdou, June 1916 (P. Rotrou); Aflou, October 1916 (V. Faroult); El Aoudj, July 1918 (P. Rotrou); El Mahouna, September 1919 (V. Faroult).

In the British Museum is 1 \(\rightarrow \) El Kantara, April 1913, P. A. Buxton.

135. Triphaena janthina intermedia subsp. nov.

Mr. Oberthür records specimens from Marseilles intermediate between typical janthina and his janthina algirica, and I have such specimens collected by Georg Krüger in Sicily. Mr. Oberthür also records a worn specimen from Lambessa of this intermediate race approaching nearest to j. janthina.

I have 11 specimens from Sidi-bel-Abbès which in size and marking of forewings are similar to j. janthina ab. rufa Tutt, but the hindwings have a much narrower black border, though not quite so narrow as in j. algirica. I therefore describe this intermediate race as janthina intermedia.

3 ♂♂, 7 ♀ Sidi-bel-Abbès, August—September 1916–1917 (M. Rotrou); 1 ♂ Aïn Draham (V. Faroult).

[Triphaena janthina algirica Oberth.

Triphaena janthina var. algirica Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 102. pl. xdiii. f. 4087 (1919) (Alger).

I bave no specimen of this form.]

136. Triphaena fimbria (Linn.).

Phalaena fimbria Linnaeus, Syst. Nat. edit. xii. p. 842 (1767).

I have only received two 33 specimens of this insect.

1 & Aïn Draham, July 1911 (V. Faroult); 1 & Aïn El-Berd, September 1918 (P. Rotrou).

137. Agrotis c. nigrum (Linn.).

Phalaena c. nigrum Linnaeus, Syst. Nat. edit. x. p. 516 (1758) (Sweden).

I have not found this so rare in Algeria as Mr. Oberthür believes it to be. Our Mauretanian series at Tring consists of 119 specimens from Blida les Glacières, June 1908 (W. R. and K. J.); Hammam R'hira, May—June 1908-1916.

(W. R. and K. J., and Faroult); Environs d'Alger, March—May 1906-1911 (W. R. and K. J. and E. H., and Dr. Nissen); Djebel Zaccar, Mihana, June 1916 (Victor Faroult); Blida February 1916, Oued Hamidou June 1912 (V. Faroult); Sidibel-Abbès, September 1917 (M. Rotrou); Forêt de Tenira, June 1918 (P. Rotrou); Aïn Draham, July—October 1911; Masser Mines, June 1914 (V. Faroult); El Mahouna, June 1919 (V. Faroult).

138. Agrotis flammatra (Schiff. & Den.).

Phalaena flammatra Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 80 (1775) (Vienna).

Our series at Tring from Mauretania is small: 12 specimens from Aïn Sefra, May 1913 (W. R. and E. H.); Sebdou, June 1918 (P. Rotrou); Mecheria June 1918, Djebel Aïssa May 1915 (Victor Faroult); Guelt-es-Stel, October 1913 (Faroult).

139. Agrotis leucogaster (Frr.).

Noctua leucogaster Freyer, Neue Beitr. Schmett. vol. i. p. 38. pl. 21 (1831) (Prag).

Of this species I have received 7 specimens from Tunisia. 4 전경, 3 약 Aïn Draham, August—September 1911 (V. Faroult). Mr. Oberthür does not record it.

140. Agrotis nisseni Rothsch. (Pl. XVII. f. 18.)

Agrotis nisseni Rothschild, Novit. Zool. vol. xix. p. 125. No. 2 (1912) (Ain Draham).

This fine large species appears to be very rare. Besides my 4 specimens, I know of only one other sent for identification to Sir George Hampson by Herr Püngler of Aachen. This species is nearest to atlantica Warr., but the ground-colour is entirely grey and wood-brown, not red and olive as in atlantica.

1 \Im , 2 \heartsuit Aïn Draham September 1911, 1 \circlearrowleft Guelt-es-Stel October 1913 (Victor Faroult).

141. Agrotis auguroides Rothsch. (Pl. XVII. f. 17.)

Agrotis auguroides Rothschild, Novit. Zool. vol. xxi. p. 320. No. 92 (1914) (Guelt-es-Stel).

The type has remained unique.

1 & Guelt-es-Stel, April 1912 (W. R. & K. J.).

142. Agrotis xanthographa (Schiff. & Den.).

Phalaena xanthographa Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 83 (1775) (Vienna).

A common insect.

I have 360 Mauretanian examples from Aïn Draham, September 1911 (V. Faroult); Batna, September—October 1912–1914 (Nelva coll.); Perrégaux, October 1915 (V. Faroult); Sidi-bel-Abbès, September 1917 (M. Rotrou); Forêt de Tenira, September 1918 (P. Rotrou); El Mahouna, September 1919 (V. Faroult).

[Lycophotia margaritacea (Vill.).

Noctua margaritacea de Villers, Linn. Entom. Faun. Suec. Descr. vol. ii, p. 272. No. 340. pl. 5. f. 16 (1789) (Europe).

I have not received any insect agreeing with margaritacea, but Mr. Oberthür states that the insects he places under this name are more slaty coloured and are therefore duskier than European margaritacea. I am almost convinced that he has wrongly identified the specimens, and that he really has examples of the insect I named Euxoa lycophotioides, and which Sir George Hampson has examined and places in the genus Epipsilia. If this is so, and I am tolerably certain it is, then Lycophotia margaritacea does not occur in Algeria, and the insect so-called by Mr. Oberthür is Epipsilia lycophotioides Rothsch.]

143. Epipsilia lycophotioides (Rothsch.). (Pl. XVII, ff. 28, 29.)

Euxoa lycophotioides Rothschild, Novit. Zool. vol. xxi. p. 319. No. 81 (1914) (Guelt-es-Stel).

I have not received this species from any other locality. 15 33 Guelt-es-Stel, October 1912-1913 (V. Faroult).

144. Agrotis praecipuina (Rothsch.). (Pl. XVII. f. 9.)

Epipsilia praecipuina Rothschild, Novit. Zool. vol. xxi. p. 321. No. 97 (1914) (Guelt-es-Stel).

I have only received 8 specimens in all of this species which at first sight looks like a xanthographa washed all over with bright rufous.

1 & Guelt-es-Stel, September 1913 (V. Faroult); 3 & 3, 1 ♀ Aïn Draham, September 1911 (V. Faroult); 3 & Sidi-bel-Abbès, September 1917 (M. Rotrou).

145. Epipsilia faceta (Treit.).

Noctua faceta Treitschke, Schmett. Eur. vol. x. pt. ii. p. 35 (1835).

The Tring series contains 91 Mauretanian specimens from Environs d'Alger, January—December 1906-1912 (W. R., E. H., Dr. Nissen, Captain Holl, and Faroult); Hammam R'hira February 1918, Blida February 1916 (V. Faroult); Rabat (A. Théry).

In the British Museum are 2 ♂♂ Tangier; 1 ♂ Mauretania, Staudinger and Bang-Haas; 1 ♀ Hammam Meskoutine, March 1911, Meade Waldo.

146. Amathes witzenmanni (Standf.).

Orthosia witzenmanni Standfuss, Mitth. Schweiz. Entom. Gesell. vol. viii. p. 233 (1890) (Digne).

I have very few specimens of this fine species, $10 \ 33$, $5 \ 99$, of which $6 \ 33$ are ab. plumbina Tnr., $2 \ 33$, $2 \ 99$ ab. griseola Rothsch., $2 \ 33$, $2 \ 99$ ab. castanea Rothsch., and $1 \ 9$ dark grey entirely suffused with vinous red which I name ab. griseovinosa ab. nov.

7 ♂♂ Environs de Batna, 1911–1914 (Nelva coll.); 3 ♂♂, 5 ♀♀ Guelt-es-Stel, October—November 1912–1913 (V. Faroult). I have not any of the ab. vinosa Oberth.

147. Monima stabilis (Schiff. & Den.).

Phalaena stabilis Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 76 (1775) (Vienna).

I have only I Algerian specimen of this species, which appears to be very rare in Mauretania.

1 & Environs d'Alger, March 30th, 1911 (W. R. and E. H.).

[Monima cruda (Sehiff, & Den.).

Phalaena cruda Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 77 (1775) (Vienna).

I have no Mauretanian examples of this species. Mr. Oberthür records it from Lambessa.]

148. Amathes ruticilla (Esp.).

Noctua ruticilla Esper, Schmett. pt. iv. vol. ii. p. 525. No. 220. pl. clvii. (Noct. 78) f. 1. (1791) (Florence).

I have received very few of this species.

6 33, 4 ♀ Environs de Batna, 1913-1914 (Nelva coll.).

149. Amathes lychnidis (Schiff. & Den.).

Phalaena lychnidis Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 76 (1775) (Vienna).

Phalaena pistacina Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 77 (1775) (Vienna).

I have 29 Mauretanian specimens from Environs de Batna, 1910–1914 (A. Nelva and V. Faroult); Hammam R'hira, February—June 1918 (V. Faroult); Sidi-bel-Abbès, June 1918 (M. Rotrou); Environs d'Alger, January 1911 (W. R. and E. H.); Blida, December 1915 (Faroult). 1 specimen is ab. coerulescens Calb.

150. Amathes lota (Linn.)

Phalaena lota Linnaeus, Syst. Nat. edit. x. p. 513 (1758).

Of this species the Mauretanian examples at Tring number 19 from Batna. 12 ♂♂, 5 ♀♀ Environs de Batna, October 1910–1914 (A. Nelva and V. Faroult); 1 ♂ Blida February 1916, 1 ♀ Aflon October 1916 (V. Faroult).

151. Amathes macilenta (Haw.).

Noctua macilenta Haworth, Lepid. Brit. p. 239 (1809).

I have received 1 specimen of this species.

1 ♀ Aflou, October 21st, 1916 (V. Faroult).

152. Sidemia fissipuncta oberthuri subsp. nov.

This is the insect Mr. Oberthür has treated of as Orthosia ypsilon Schiff., but ypsilon Schiff. being preoccupied by ypsilon Rott., Haworth's name fissipuncta is the correct appellation. I have it treated as a subspecies at present, but believe it will prove a distinct species. Mr. Oberthür says that the Algerian form appears to be very pale in colour and have the pattern much effaced; but that he has too few specimens to confirm this.

The series from Algeria at Tring consists of 63 specimens, 20 from East Algeria and 43 from West Algeria, and they are very distinct from European and British examples.

- 14 ♂♂, 16 ♀♀ Environs de Batna, 1911–1912 (A. Nelva coll.); 17 ♂♂, 18 ♀♀ Sidi-bel-Abbès and Les Trembles, April—July 1914–1918 (M. Rotrou); 2 ♂♂, 5 ♀♀ Sebdou and Forêt de Tenira, May—June 1918 (P. Rotrou); 1 ♂ Lalla Marnia, April 1914 (V. Faroult).

Type \mathcal{P} Sidi-bel-Abbès.

153. Omphaloscelis lunosa (Haw.).

Noctua lunosa Haworth, Lepid. Brit. p. 230 (1809).

I have received very few Mauretanian examples of this species.

1 ♂, 4 ♀♀ Guelt-es-Stel, October—November 1913 (V. Faroult); 5 ♂♂, 1 ♀ El Mesrane November 1913, 3 ♂♂, 1 ♀ Aflon October 1916 (V. Faroult).

[Amathes haematidea (Dup.).

Noctua haematidea Duponchel, Lepid. France, vol. vii. p. 365. pl. 122. f. 5 (1827) (France).

I have no Mauretanian examples.]

[Amathes litura (Linn.).

Phalaena litura Linnaeus, Faun. Suec. edit. ü. p. 320 (1761) (Sweden).

Also of this species I have no specimens from Mauretania.]

154. Amathes helvola (Linn.).

Phalaena helvola Linnaeus, Syst. Nat. edit. x. p. 507 (1758) (Finland).
Phalaena rufina Schffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 86 (1775) (Vienna).

Guenée, and consequently Oberthür also, attributes the name rufina to Linnaeus and quotes "S. N. 72." What this reference means I have been unable to trace, nor can I find any such name as rufina in Linnaeus. Rufina Schiffermüller is described in the Wiener Verzeichniss, 1775, so is much later than Linnaeus' helvola 1758.

I have 2 99 from Algeria of the red form.

2 ♀♀ Environs de Batna, 1913-1914 (Nelva coll.).

155. Amathes lucida (Hüfn.).

Phalaena lucida Hüfnagel, Berl. Mag. vol. iii. p. 302 (1767).

The name *nitida* Schiff., used by Mr. Oberthür, was published in 1775, eight years later than Hüfnagel's *lucida*.

I have 2 Algerian specimens.

1 ♂ Hammam R'hira, February 1918 (V. Faroult); 1 ♀ Environs de Batna, 1913-1914 (A. Nelva coll.).

[Conistra silene (Schiff. & Den.).

Phalaena silene Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 85 (1775) (Vienna).

I have not received this insect from Mauretania.]

[Conistra veronicae (Hübn.).

Noctua veronicae Hübner, Samm. Europ. Schmett. Noct. f. 541 (1827).

This also is not in the Tring Museum from Mauretania.]

[Conistra erythrocephala (Schiff. & Den.).

Phalaena erythrocephala Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 77 (1775) (Vienna).

Again this species has never come to hand from Mauretania.]

156. Conistra vaccinii sebdouensis (Aust.).

Orrhodia sebdouensis Austaut, Lc Natur. 1880. p. 221 (Sebdou).

The Algerian race, although just as variable as the European and British vaccinii vaccinii, is constantly different and is a well separated subspecies.

I have 27 Algerian specimens from Environs de Batna, October 1910-1914 (A. Nelva and V. Faroult).

[Xantholeuca croceago (Schiff. & Den.).

Phalaena croceago Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 86 (1775) (Vienna).

This species we have not received.]

157. Cosmia austauti (Oberth.).

Xanthia austauti Oberthür, Etud. Entom. fasc. vi. p. 87. pl. 1. f. 3 (1881) (Sidi-bel-Abbès).

Sir George Hampson unites this with palleago Hübn., but I consider it a distinct species; it differs at first sight from palleago by the much rounder and blunter apex of the forewings, in fact its shape is much more that of gilvago Schiff.

This is very variable indeed, and the following aberrations have names; pale nankeen as in type, but pattern heavy and brownish = ab. monilifera Culot; orange-cinnamon with heavy sooty pattern = ab. batnensis Culot; rosy cinnamon or rufous cinnamon, pattern not heavy = ab. algirica B.-H. (1912) = rosina Culot (1914).

Our Mauretanian series at Tring numbers 216, from Environs de Batna, October 1909-1914 (A. Nelva, Faroult, and Staudinger); Bou Saada March 1912, Aflou October 1916, Lalla Marnia November 1914 (Victor Faroult); Forêt de Tenira, October 1918 (P. Rotrou); Sidi-bel-Abbès, September 1917 (M. Rotrou); Bordj-ben-Anéridj, October 1912 (V. Faroult); Medjes October 1911, Aflou October 1916 (V. Faroult); Guelt-es-Stel, November 1913 (V. Faroult).

The British Museum has 2 33, 2 P Batna, Staudinger and Bang-Haas.

158. Cymatophora algirica (Culot).

Cirrhoedia algirica Culot, Noct. et Géom. d'Eur. pt. i. vol. ii. p. 76. pl. 53. f. 1. (1914) (Lambessa).

I have of this Mauretanian species 46 specimens—viz. 25 Sidi-bel-Abbès, October 1917 (M. Rotrou); 1 & Batna (Staudinger); 19 Forêt de Tenira October, 1 Sebdou September 1918 (P. Rotrou).

The latter specimen was sent out as Cirrh. pallida var.; pallida Stdgr. is quite a different insect from Asia Minor and has pure white hindwings.

[Enargia ulicis Stdgr. and its allies. Mr. Oberthür makes all the forms of Enargia, occurring in Algeria, forms of one species, ulicis Stdgr. Sir George Hampson, on the other hand, makes them out to be 3 good species. It is very difficult to decide this question, because it is complicated by the occurrence of 3 distinct colour groups in each form: (1) Yellowish ochre grey = ab. griseo-olivacea Culot. (Form 2) Salmon to deep brick-red = ab. rufa Culot. (Form 3) Brown to black-brown = ab. brunnea Culot. I consider therefore my series too small to decide these points, and shall for the present follow Sir George Hampson and treat them as 3 species.]

159. Enargia ulicis (Stdgr.).

Cosmia ulicis Staudinger, Stett. Entom. Zeit. 1859. p. 214 (Granada).

1 \bigcirc from Guelt-es-Stel (V. Faroult) ; 2 \bigcirc 6 \bigcirc El Mahouna, September 1919 (V. Faroult).

160. Enargia regina (Stdgr.).

Cosmia regina Staudinger, Iris, vol. iv. p. 297. pl. 4. f. 2 (1892) (Asia Minor).

I have 1 \circlearrowleft very large and typical from Aïn Draham, September 1911 (V. Faroult).

The British Museum has 1 ♀ Le Tarf, D. Lucas.

161. Enargia algirica Culot.

Enargia algirica Culot, Noct. et Géom. d'Eur. p. 73. pl. 52. ff. 9, 10 (f. 8 appears to be an aberrant regina) (August 1914) (Lambessa).

Amathes rufescentior Rothschild, Novit. Zool. vol. xxi. p. 331. No. 163 (October 1914) (Guelt-es-Stel).

The Tring series consists of 20 33, 18 \rightleftharpoons : 3 33 Batna, September 1913 (Nelva coll.); 1 \rightleftharpoons Lambessa, 1912 (Nelva coll.); 15 33, 15 \rightleftharpoons Guelt-es-Stel May 1913, 1 3 Aïn Draham September 1911 (V. Faroult); 1 3, 2 \rightleftharpoons El Mahouna, September 1919 (V. Faroult).

2 33, 1 $\$ are the ab. griseo-olivacea Culot, and 1 3, 2 $\$ are the ab. ruberrima Rothsch.

. The British Museum has 2 33, 2 99 Guelt-es-Stel ex Tring Museum.

162. Enargia jordani sp. nov. (Pl. XVII. f. 27.)

Nearest allied to borjomensis Stdgr., but differs in the orbicular and reniform being both strongly developed. It also differs at a glance in the antennae being so strongly serrate as to be almost pectinated while the $\varphi\varphi$ of all the other species have simple antennae.

Q. Antennae rufous brown; head and thorax rufous cinnamon; abdomen whitish grey, freekled heavily with black scales.

Forewings rufous cinnamon, freekled with black scales; antemedian line not strongly marked, reniform and orbicular very large, dark brown, postmedian line clearly defined and well marked sinuate and strongly dentate; fringe entirely rufous cinnamon not edged with black as in *ulicis* and allies. Hindwing dull white; a minute black stigma and a median sinuate angulate pale cinnamon line.

Length of forewing, 18 mm.; expanse, 41 mm.

1 ♀ Souk Ahras, April 15th, 1914 (W. R. and K. J.).

163. Miselia luteago (Schiff. & Den.).

Phalaena luteago Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 86 (1775) (Vienna). (In Cat. Brit. Mus. as Polia.)

I have only two Mauretanian specimens. $2 \rightleftharpoons$ Hammam R'hira, May 1916 (V. Faroult).

164. Hydroecia xanthenes orientalis (Oberth.).

Jortyna xanthenes var. orientalis Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 127. pl. xdv. f. 4105 (1919) (Batna).

Most of my specimens are much paler than the figured type.

I have 12 Mauretanian specimens: 3 ♂♂, 5 ♀♀ Lamberidi nr. Batna October 1910, 1 ♂ Bordj-ben-Anéridj October 1912, 1 ♂ Aïn Draham October 1911, 1 ♂ Hammam R'hira February 1918, 1 ♀ Blida November 1915 (Victor Faroult). Most of the specimens are very large, especially the ♀♀. considerably larger than European specimens.

165. Epipsilia straminea (Rothsch.). (Pl. XVII. f. 10.)

Euxoa straminea Rothschild, Novit. Zool. vol. xxi. p. 318. No. 80 (1914) (Guelt-es-Stel).

2 33 Guelt-es-Stel, October 1912 (V. Faroult).

166. Parastichtis monoglypha (Hüfn.).

Phalaena monoglypha Hüfnagel, Berl. Mag. vol. iii. p. 308 (1767) (Berlin).

The Tring series from Mauretania is very small, 13 33, 9 99: 11 33, 4 99 Batna 1909 (A. Nelva coll.); 1 3, 3 99 Hammam R'hira April—May 1917, 1 9 Bordj-ben-Anéridj October 1912 (V. Faroult); 1 3, 1 9 El Mahouna, July 1919 (V. Faroult).

167. Pseudohadena chenopodiphaga (Ramb.).

Mamestra chenopodiphaga Rambur, Ann. Soc. Entom. France, vol. i. p. 283. pl. 9. i. 7 (1832) (Corsica).

The Mauretanian series at Tring consists of 67 specimens from Guelt-es-Stel, April—November 1914 (W. R. and K. J., and Faroult); Bordj Ferjan and Bordj Mecht-el-Kaid, east of Touggourt, April 1909 (W. R. and E. H.); Bou Saada and Tilghemt April—May 1912, Aïn Sefra May 1915, El Mesrane May 1913, Biskra May 1910 (Victor Faroult); Khenchela, May 1912 (W. R. and K. J.); north of El Golca, March 1912 (Hartert and Hilgert); Mecheria, May 1918 (Faroult).

The ab. crubescens Stdgr. occurs all over Algeria amongst the type, but most frequently in the south.

The British Museum has 1 & Hammam-es-Salahin, April 1904, Lord Walsingham.

168. Pseudohadena roseonitens (Oberth.).

Mamestra roseonitens Oberthür, Bull. Soc. Entom. France, 1887. p. 49 (Biskra).

Of this fine insect I have 12 specimens from Khenchela, May 1912 (W. R. and K. J.); Bou Saada, May 1911 (V. Faroult); Biskra (Staudinger); Bordj Chegga, S. of Biskra and Zaatscha, W. of Biskra, April 1909 (W. R. and E. H.).

169. Saragossa seeboldi arabum Culot.

Saragossa seeboldi var. arabum Culot, Noct. et Géom. d'Eur. pt. i. vol. i. p. 112. pl. 19. f. 12 (1911) (Sebdou).

Of this very rare species I have only 5 Algerian specimens.

1 & Batna (Nelva coll.); 1 \subsetneq Guelt-cs-Stel, September 1913 (W. R. and K. J.); 1 \circlearrowleft , 1 \subsetneq Sidi-bel-Abbès, September 1917 (M. Rotrou); 1 \circlearrowleft Bou Yousuf, September 1914 (A. Nelva).

170. Hadula pulverata (B.-H.).

Mamestra pulverata Bang-Haas, Iris, vol. xx. p. 71. pl. iii. f. 8 (1907) (Gafsa). Polia cinnamomeogrisea Rothschild, Novit. Zool. vol. xx. p. 121. No. 36 (1913) (Bordj Chegga).

The series at Tring consists of 58 specimens from Bordj Chegga. Bordj Saada, and Kef-el-Dohr, S. of Biskra, February 1912 and March 1917 (Hartert and Hilgert, and V. Faroult).

I only found out that *cinnamomeogrisea* = pulverata after the whole article was written.

171. Hadula griseola (Rothsch.).

Odontelia griscola Rothschild, Novit. Zool. vol. xx. p. 121. No. 37 (1913) (halfway between Ouargla and El Golea).

This insect appears to be rare; only 2 further specimens in addition to the original 5 have come to hand.

4 33 (including type of ab. rosacca) Mraier S. of Biskra, 1 3 halfway between Ouargla and El Golea February—March 1912, 1 3 Hassi Dinar S. of Touggourt (Hartert and Hilgert); 1 3 Bir Stil, S. of Biskra, March 1917 (V. Faroult).

172. Margelana irritaria (B.-Haas).

Apamea testacea var. irritaria Bang-Haas, Iris, vol. xxvi. p. 146 (1912) (Batna).

This insect has been much confused; Bang-Haas has placed it as a subspecies of *Palluperina testacea* Hübn., Culot does not mention it, and Oberthür places it as one of the many varieties he attributes to his *Palluperina dayensis*. Sir George Hampson, however, declares that structurally it is **not** a *Palluperina* at all, but a *Margelana*.

I have 17 33 all from Batna, including 1 co-type.

17 33 Batna, 1909-1914 (A. Nelva).

In the British Museum is 1 & Batna, Staudinger and Bang-Haas.

173. Palluperina powelli (Culot).

Apamea nickerlii var. powelli Culot, Noct. et Géom. d'Eur. p. 140. pl. 25. f. 10 (?) (1912) (Géryville). Luperina pseudoderthisa Rothschild, Novit. Zool. vol. xxi. p. 332. No. 170 (1914) (Guelt-es-Stel).

I have 15 specimens of this species.

5 ♂♂ Aflou October 1916, 4 ♂♂, 2 ♀♀ Guelt-es-Stel September—October 1913 (V. Faroult); 1 ♀ Sebdou, September 1918 (P. Rotrou); 1 ♂ Sidi-bel-Abbès, September 1917 (M. Rotrou); 1 ♂, 1 ♀ El Mahouna, September 1919 (V. Faroult).

174. Palluperina nickerlii graslini Oberth.

Luperina nickerlii var. graslini Oberthür, Bull. Soc. Entom. France, 1908, p. 323 (Pyrénées-Orientales).

This subspecies is the form found in Algeria; I have 15 specimens.

2 ♂♂, 1 ♀ Batna October 1910–1914 (Nelva and Faroult); 5 ♂♂, 2 ♀♀ Aflou, October 1916 (V. Faroult); Sebdou, September 1918 (P. Rotrou); 1 ♀ Sidibel-Abbès, September 1917 (M. Rotrou); 2 ♂♂ El Mahouna, September 1919 (V. Faroult).

Mr Oberthür remarks that his Algerian specimens are paler and greyer than Mr. Culot's figure plate 25 f. 9, but mine are almost as dark, except the Sidi-bel-Abbès \mathcal{Q} and 1 Batna \mathcal{J} .

175. Palluperina dayensis (Oberth.).

Luperina rubella var. dayensis Oberthür, Etud. Entom. fasc. vi. p. 86, pl. 11, f. 9 (1881) (Daya).

Mr. Oberthür unites under dayensis all the forms of the teslacea section from Algeria. My series of testacea, rubella, etc. from all localities are too few for me to express an opinion, and so I have followed Mr. Oberthür in this instance.

The series from Algeria at Tring contains 42 specimens from Environs de Batna, September 1909–1914 (A. Nelva); Sidi-bel-Abbès, Messer, September—October 1917 (M. Rotrou); Forêt de Tenira, September 1918 (P. Rotrou); Sebdou, September 1918 (P. Rotrou); Guelt-es-Stel October 1912, Biskra November 1910 (V. Faroult); El Mahouna, September 1919 (V. Faroult).

176. Palluperina dumerilii (Dup.).

Noctua dumerilii Duponchel, Lépid. France, vol. vi. p. 277. pl. 90. f. 4 (1826) (France).

I have $3 \circlearrowleft 4 \circlearrowleft 4 \circlearrowleft 6$ of this species, $1 \circlearrowleft 6$ being of the ab. armoricana.

1 &, 1 \circlearrowleft Aïn Draham October 1911, 1 & Aflou October 1916, 1 \circlearrowleft Perrégaux November 1915 (V. Faroult); 1 & Environs de Batna, 1913–1914 (A. Nelva); 1 \circlearrowleft Forêt de Tenira, September 1918 (P. Rotrou); 1 \circlearrowleft El Mahouna, September 1919 (V. Faroult).

177. Sidemia fulva (Rothsch.). (Pl. XVII. ff. 20, 21.)

Meganephira oxyacanthae fulva Rothschild, Novit. Zool. vol. xxi. p. 329. No. 151 (1914) (Guelt-es-Stel).

We now have at Tring 11 ♂♂, 6 ♀♀ of this species: 6 ♂♂, 2 ♀♀ El Mesrane, November 1913 (V. Faroult); 3 ♂♂, 2 ♀♀ Perrégaux, September—October 1915 (V. Faroult); 1 ♀ (type) Guelt-es-Stel, October 1912 (V. Faroult); 1 ♂ Biskra, March 1914 (W. R. and E. H.).

178. Dasysternum faroulti sp. nov. (Pl. XVII. f. 22.)

Q. Antennae greyish white; head and thorax greyish sandy-cinnamon; abdomen greenish buff.

Forewing greyish sandy-cinnamon; orbicular reduced to a point, reniform large white bordered inwardly with brown; antemedian line strongly angled three times dark cinnamon brown, postmedian line strongly dentate-lunate running obliquely inwards, antemedian line basad and post-median line distad bordered with white; submarginal line white; fringe chequered and lined with white. Hindwing dirty whitish grey, whiter towards termen, marginal hair-line brown.

Length of forewing, 19 mm.; expanse, 44 mm.

1 ♀ El Mesrane, November 1915 (V. Faroult).

179. Dasythorax rotroui sp. nov. (Pl. XVII. f. 23.)

Q. Antennae dark brown, cylindrical; head, thorax, and abdomen cinnamon wood-brown.

Forewing cinnamon brown, freckled with black scales; an incomplete antemedian line obliquely outwards to vein 2, orbicular with black ring and central dot, reniform large whitish, a curved dentate postmedian black line, post-discal area strongly irrorated with black scales. Hindwing milk white.

Length of forewing, 15 mm.; expanse, 34 mm.

1 ♀ Messer, September 1917 (M. Rotrou).

180. Namaugana chimaera sp. nov. (Pl. XVII. f. 24.)

This curious species is unlike any other Noctuid known to me.

3. Entirely wood-grey, with an intense sating sheen. Forewing irrorated slightly with black scales, basal one-fifth more thickly, an oblique faint black hair-line from vein 1 outwards towards apex to vein 5, a submarginal row of black indistinct spots from vein 4 to inner margin.

Length of forewing, 14 mm; expanse, 31 mm.

1 & Environs de Taourirt, Morocco, July 1918 (per M. Rotrou).

181. Sidemia aflouensis sp. nov. (Pl. XVII. f. 25.)

Nearest to kostantschikovi Püngl.

3. Antennae amber-brown; head and thorax slaty mouse-grey; abdomen yellowish grey. Forewing slaty mouse-grey, orbicular and reniform indistinct, claviform prominent; a dentate curved postmedian thin line, black pale grey on distad side. Hindwing white.

Length of forewing, 15 mm.; expanse, 34 mm.

1 & Aflou, October 1916 (V. Faroult).

182. Thalpophila vitalba (Frr.).

Noctua vitalba Freyer, Neue Beitr. vol. ii. pt. xxi. p. 48. pl. 124. ff. 3, 4 (1834) (Sicily).

I have a series from Mauretania of 23 specimens: Aïn Draham, September 1911 (V. Faroult); Environs d'Alger, September 1908 (Dr. Nissen and Captain Holl); El Mahouna, September 1919 (V. Faroult).

183. Trachea secalis (Linn.).

Phalaena secalis Linnacus, Syst. Nat. edit. x. p. 519 (1758) (Sweden).

This is one of the most variable of species, and has an enormous distribution from Great Britain in the west to Japan in the east, from Scandinavia in the north to Mauretania in the south, and in Asia from the Arctic Ocean in the north to India in the south.

Mr. Oberthür remarks that he has never seen a specimen of the ab. struvii Ragusa from Mauretania; it certainly must be extremely rare there, but I have one very fine strongly marked specimen of this aberration from Setif.

The series of Mauretanian examples at Tring consists of 209 specimens from Berrouaghia, April 1914 (V. Faroult); Sidi-bel-Abbès, September—October 1917 (M. Rotrou); Environs de Setif, 1911 (V. Faroult); Lambessa, November 1912 (A. Nelva coll.); Ain Draham, August—September 1911 (V. Faroult); Environs de Batna (A. Nelva coll.).

184. Procus faroulti (Rothsch.).

Bryophila faroulti Rothschild, Novit. Zool. vol. xxi. p. 333. No. 177 (1914) (Guelt-es-Stel).

Mr. Oberthür has described this insect under the name of Miana erratricula powelli, but, as Sir George Hampson pointed out to me, the median and post-median lines run differently to those in erratricula, and he considers this a distinct species. Sir George Hampson also considers I was right originally in placing it in the genus Bryophila and not in that of Procus (Miana), but I am more than doubtful of this now, and prefer to treat it as a species of Procus.

The Tring series consists of 42 specimens from Guelt-es-Stel, August—September 1913 (V. Faroult).

185. Procus furuncula (Sehiff. & Den.).

Phalaena furuncula Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 89 (1775) (Vicnna).

This insect appears to be rare in Mauretania, as I have received only $4 \, \text{GG}$, $3 \, \text{CP}$.

1 ♂, 2 ♀♀ Sidi-bel-Abbès, September 1917 (M. Rotrou); 1 ♀ Forêt de Tenira, September 1918 (P. Rotrou); 1 ♂ Aïn Draham, August 1911 (V. Faroult); 2 ♂♂ Metlili, September 1917 (V. Faroult).

186. Miselia carpophaga (Borkh.).

Phalaena carpophaga Borkhausen, Eur. Schmett. vol. iv. p. 422 (1792).

Mr. Oberthür places this species under the name of capsophila Dup. It is quite true that most of my Mauretanian specimens are ab. capsophila, but it cannot be treated as a separate species or subspecies, as it occurs everywhere with the type.

We have at Tring 69 specimens from Sebdou, May 1918 (P. Rotrou); Bou Saada, May 1912 (V. Faroult); Souk Ahras, April 1914 (W. R. and K. J.); Hammam R'hira August 1916, Messer June 1918 (V. Faroult); Batna, May—June 1915 (A. Nelva coll.); Khenchela, May 1912 (W. R. and K. J.); Guelt-es-Stel May 1913, Mecheria May 1918 (V. Faroult); Sidi-bel-Abbès, May 1918 (M. Rotrou); Sebdou, Forêt de Tenira, May 1918 (P. Rotrou).

187. Pronotestra silenides (Stdgr.).

Mamestra silenides Staudinger, Iris, vol. vii. p. 273. pl. ix. f. 14 (1894) (Chiclava).

The Mauretanian series of this insect at Tring consists of 152 specimens from Guelt-es-Stel, April—May 1912–1913 (W. R. and K. J., and V. Faroult); Biskra, March—April 1908–1914 (W. R. and E. H.); Ghardaïa, April 1911 (W. R. and E. H.); Bou Saada, March—April 1911–1912; Mecheria May 1918, El Kantara March—April 1911 (Victor Faroult); Tilghemt, April 1911 (W. R. and E. H.); Tunis, South Oran (Staudinger).

In the British Museum are 1 ♂ Algeria; 1 ♀ Tunis; 1 ♂ El Kantara, April 1913, P. A. Buxton.

188. Epia silenes (Hübn.).

Noctua silenes Hübner, Eur. Schmett. Noct. f. 653 (1827).

Polia trisagittata Rothschild, Novit. Zool. vol. xxi. p. 322. No. 104 (1914) (Guelt-es-Stel).

The darker ab. sancta Stdgr. (Dianthoecia sancta Staudinger, Stett. Entom. Zeit. 1859, p. 213 (Chiclana)) has been placed by Sir George Hampson as an aberration of Epia nisus Germ.; but I agree with Messrs. Culot and Oberthür that it belongs to silenes Hübn.

My trisagittata is a 3 with very strongly developed markings and with very high colour contrasts.

Our series at Tring consists of 149 Mauretanian specimens from Guelt-es-Stel, March—April 1912–1913 (W. R. and K. J., and Faroult); Hammam Meskoutine, April 1914 (W. R. and K. J.); Bou Saada, March—April 1911–1912 (V. Faroult); Batna (Nelva); Mazagan, March 1902 (W. Riggenbach).

[Miselia bicruris (Hufn.).

Phalaena bicruris Hufnagel, Berl. Mag. vol. iii. pt. iii. p. 302 (1767) (Berlin).

Mr. Oberthür makes use of Schiffermüller's name capsincola, but bicruris has nine years' priority. I have not received this species from Mauretania.]

189. Miselia magnolii (Boisd.).

Dianthoccia magnolii Boisduval, Ind. Meth. p. 125 (1829).

My single of from Hammam Meskoutine has the ground-colour almost black, with no trace of rufous colouring so conspicuous in Mr. Culot's figure (*Noct. et Géom. d'Eur.*, vol. i. pl. 20. f. 8).

1 & Hammam Meskoutine, April 1914 (W. R. and K. J.).

190. Miselia compta galactina (Turati).

Dianthoecia galactina Turati, Nat. Sicil. vol. xx. p. 25. pl. 6. ff. 10, 11 (1907) (Sicily).

The Algerian form appears to be this and must be very rare, as Mr. Oberthür only records it from Guelt-es-Stel, and I have only received 1 single 3 also from there.

1 & Guelt-es-Stel, June 1913 (V. Faroult).

191. Miselia conspersa (Schiff. & Den.).

Phalaena conspersa Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 71 (1775) (Vienna).

Mr. Oberthür does not record this species, but Mr. Culot does so from Morocco. The series at Tring consists of 38 specimens from Environs d'Alger May 1908, Hammam Meskoutine, and Souk Ahras April 1914 (W. R. and K. J.); Hammam R'hira August, Djebel Zaccar, near Miliana, June 1916 (V. Faroult); Guelt-es-Stel, April—June 1913 (V. Faroult); Sidi-bel-Abbès, May 1918 (M. Rotrou); El Mahouna, May—June 1919 (V. Faroult).

192. Miselia dysodea faroulti (Rothsch.).

Polia faroulti Rothschild, Novit. Zool. vol. xxi. p. 322. No. 106 (1914) (Guelt-es-Stel). Hecatera dysodea africana Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 138 (1919) (Géryville).

Mr. Oberthür has renamed this insect as usual, because it has not been figured by me.

The Tring series of Mauretanian examples numbers 43 specimens from Bou Saada April—May 1911–1912, Guelt-es-Stel September 1913 (V. Faroult); Tamarouth, Morocco, June 1904 (W. Riggenbach); Environs d'Alger (Captain Holl).

193. Miselia antitypina (Rothsch.). (Pl. XVII. f. 8.)

Polia antitypina Rothschild, Novit. Zool. vol. xxi. p. 322. No. 107 (1914) (Guelt-es-Stel).

This species must be very rare, as I have only received the two 33 from Guelt-es-Stel.

2 33 Guelt-es-Stel, April 1912-1913 (W. R. and K. J., and Faroult).

194. Miselia filigrama (Esp.).

Nocta filigrama Esper, Europ. Schmett. p. 396. No. 137. pl. 130. f. 4 (1788) (Innspruck).

I have 2 33 of this species from Mauretania; it is not recorded by Mr. Oberthür.

1 ♂ Tamarouth, W. Morocco, June 1904 (W. Riggenbach); 1 ♂? (Sand coll.).

195. Miselia serena (Schiff. & Den.).

Phalaena serena Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 84 (1775) (Vienna).

This insect is very variable and has received a number of names, but the forms corsica, leuconota, obscura, etc., seem to occur together with the type and can only rank as aberrations.

I have at Tring 17 specimens from Guelt-es-Stel, April—May 1912-1913 (W. R. and K. J., and Faroult); Bou Saada, May 1911 (V. Faroult); Hammam Meskontine, May 1914 (W. R. and K. J.); Hammam R'hira, August 1916 (V. Faroult); Khenchela May 1912, Biskra April 1914, Environs d'Alger May 1912 (W. R., K. J., and E. H.).

196. Metopoceras canteneri canteneri (Dup.).

Polia canteneri Duponchel, Rev. Entom. Silb. vol. i. pt. i. p. 37. pl. 3 (1833) (S. France, Hyères).

I thought in 1913, after comparing Guelt-es-Stel specimens with European ones, that typical *canteneri* did not occur in Algeria; but I have since received from Messrs. Rotrou some specimens from the extreme west of the province of Oran which are indistinguishable from Portuguese specimens. I therefore must divide the Algerian *canteneri* into two local races.

Of canteneri Canteneri I have at Tring 9 specimens from Les Pins, June 1918 (M. Rotrou); Sebdou June, Forêt de Tenira May 1918 (P. Rotrou).

197. Metopoceras canteneri pallidior Rothsch.

Metopoceras canteneri pallidior Rothschild, Novit. Zool. vol. xx. p. 123 (1913) (Guelt-es-Stel).

Of this paler Central Algerian subspecies we have at Tring 4 ♂♂, 3 ♀♀. 4 ♂♂, 1 ♀ Guelt-es-Stel, April—May 1912–1913 (W. R. and K. J., and Faroult); 2 ♀♀ Bou Saada, May 1911 (V. Faroult).

198. Metopoceras felicina (Douz.).

Polia felicina Douzel, Ann. Soc. Entom. France, ser. ii. vol. ii. p. 199. pl. 6. f. 2 (1844) (Marseilles).

Of this species we have at Tring 100 specimens from Hammam Meskoutine, April—May 1909–1914 (W. R., E. H., and K. J.); Lalla Marnia, April—May, 1914 (V. Faroult); Oran, April 1913 (W. R. and E. H.); Mazagan, Morocco, March—April 1902 (W. Riggenbach); Hammam R'hira, May 1908 (W. R. and K. J.); Bou Saada April 1911, Oued Hamidou June 1912, Guelt-es-Stel April 1913 (V. Faroult); Sebdou, Forêt de Tenira, May 1918 (P. Rotrou); Sidi-bel-Abbès, May 1918 (M. Rotrou).

In the British Museum is 1 & Forest of Marmora, April 1903, Meade-Waldo.

[Metopoceras codeti Oberth.; Ammetopa nisseni Rothsch.; and Ammetopa codeti Hmpsn.

There has been a most extraordinary amount of confusion in connection with these three insects, and it only shows how three experienced lepidopterists like Sir George Hampson, Monsieur Oberthür, and Monsieur Culot can be deceived even when assisted by type specimens, good figures, and series of allied species.

Metopoceras codeti Oberth. was first described and figured from Sebdou in 1881 (Etud. Entom. livr. vi. p. 88. pl. xi. f. 10). In the description Mr. Oberthür says, "Taille de Felicina; mais les ailes un peu moins élargies," i.e. less broad. In continuation Mr. Oberthür says that the forewings and thorax above are strongly washed with rose. Now, I have specimens from Aïn Sefra and Sebdou taken by myself and P. Rotrou which agree precisely with the original description and figure of codeti Oberth.

In 1913 Mr. Culot published a description and figure professing also to be codeti Oberth. (Noct. et Géom. d'Eur. pt. i. vol. i. p. 166. pl. 30. f. 18). In his description Mr. Culot lays great stress on the narrow forewings, very sinuate and dentate postmedian line, and the greyish median space. Now, Mr. Culot states that his figure was taken from the "specimen typicum" of Mr. Oberthür from Sebdou. This I cannot believe, as the drawing is totally different from the drawing in Etud. Entom. livr. vi., undoubtedly made from the type. More-

over, Mr Culot's figure is identical with Guelt-es-Stel specimens, while I have specimens identical with the figure in the *Etudes* from Sebdou and Aïn Sefra. I feel sure that Mr. Culot received from Mr. Oberthür a Guelt-es-Stel or El Outaya specimen in mistake for the original Sebdou specimen caught by Dr. Codet.

In the Catalogue of Heterocera, vol. vi. Sir George Hampson ereated the genus Ammetopa (p. 120) for two \circlearrowleft insects caught by Mrs. Nicholl and Mr. Eaton at Biskra, and which he had identified as codeti Oberth. This insect is totally different to either codeti Oberth., codeti Culot, or nisseni Rothsch., and belongs to a different genus. Finally, Ammetopa nisseni Rothsch. was described by me in 1913, because I compared my Guelt-es-Stel specimens with the Biskra ones in the British Museum, which I then thought were true codeti Oberth. I propose to figure codeti Oberth., codeti Hmpsn., and nisseni Rothsch. on one plate to show the differences.

The true facts are these: There are two races of codeti Oberth., one the typical one from West Algeria (Province Oran), and the other from Central and Eastern Algeria (Provinces Alger and Constantine). This insect does not belong to the genus Metopoceras, but to Bryomima, and the two races must stand as Bryomima codeti codeti (Oberth.) and Bryomima codeti nisseni (Rothsch.). The insect identified by Sir George Hampson as codeti Oberth. will stand as Ammetopa codeti Hmpsn.].

199, Bryomima codeti codeti (Oberth.), (Pl. XV. ff. 22, 23.)

Metopoceras codeti Oberthür, Etud. Entom. livr. vi. p. 88. pl. xi. f. 10 (1881) (Sebdou).

Of this form we have at Tring 4 ♂♂, 7 ♀♀ from Aïn Sefra, May 1913 (W. R. and E. H.); Sebdou, May 1918 (P. Rotrou); Mécheria, May 1918 (V. Faroult).

Of these the two taken by ourselves at Aïn Sefra are identical with Mr. Oberthür's type figure.

200. Bryomima codeti nisseni (Rothseh.). (Fl. XV. ff. 24, 25.)

Ammetopa nisseni Rothschild, Novit. Zool. vol. xx. p 123 (1913) (Guelt-es-Stel).

The principal distinction between this and *codeti codeti* is the much sharper and more distinct ante- and postmedian transverse bands on the forewings.

Of this form I have 19 specimens, all from Guelt-es-Stel, March—April 1912-1913 (W. R. and K. J., and Faroult and Dr. Nissen).

201. Ammetopa codeti Hmpsn. (Pl. XV. f. 21.)

Ammetopa codeti Hampson, Cat. Lepid. Phal. Brit. Mus. vol. vi. p. 120. No. 2222. fig. 32 (1906) (Biskra).

This insect must be very rare, as my solitary specimen is only the third known.

- 1 of Oued Amra, north of Idelès, April 1914 (Geyr von Schweppenburg).
- 2 33 Algeria and Biskra, March 1897 (A. E. Eaton and Mrs. Nicholl), in British Museum.

202. Metopoceras omar (Oberth.).

Cteophana omar Oberthür, Bult. Soc. Entom. France, 1887, p. 57 (Oued Leber, Tunis).

Of this purely Mauretanian species, the series at Tring contains 329 specimens from Ain Sefra, May 1913 (W. R. and E. H.); Guelt-es-Stel, April 1912-1913 (W. R. and K. J., and Faroult); Bou Saada March, Laghouat March 1912,

Djebel Kerdada May 1912 (V. Faroult); Tilghemt, April 1911–1912 (W. R. and E. H., and Faroult); Ghardaïa, April 1911 (W. R. and E. H.); Bordj Saada, Bordj Chegga, Kef-el-Dohr, February 1912 and March 1917 (Hartert and Hilgert, and Faroult); Biskra, March—April 1908–1914 (W. R. and E. H., and Faroult) and Staudinger); El Kantara March 1911, El Hamel May 1912 (V. Faroult); Constantine, Tunis (F.T.) (Staudinger); Khenchela, May 1912 (W. R. and K. J.); Oued Nça, April 1914 (Hartert and Hilgert); Aïn Sefra May 1915, Mecheria, May 1918 (V. Faroult); Hammam R'hira May 1917, Bou Saada May 1911 (V. Faroult); Sidi-bel-Abbès, May 1918 (M. Rotrou); Forêt de Tenira, May 1918 (P. Rotrou).

In the British Museum are 1 ♂, 1 ♀ Algiers; 1 ♂ Biskra, March 1897, P. A. Buxton; 2 ♂♂ Hammam-es-Salahin, April 1904, Lord Walsingham.

203. Metopoceras morosa Rothsch. (Pl. XV. f. 20.)

Metopoceras morosa Rothschild, Novit. Zool. vol. xxi. p. 326. No. 133 (1914) (Guelt-es-Stel).

2 33 Guelt-es-Stel, April 1913 (V. Faroult). I have received no more of this species, which differs from purplish varieties of *omar* in the antemedian band.

204. Metopoceras khalildja Oberth.

Metopoceras khalildja Oberthür, Etud. Entom. livr. ix. p. 38. pl. 3. f. 1 (1884) (Sebdou).

Our series at Tring consists of 120 specimens from Guelt-es-Stel, March—April 1913 (Victor Faroult); Khenchela, May 1912 (W. R. and K. J.); Tunis (Dannehl); Berrouaghia and Lalla Marnia, April 1914 (V. Faroult); Environs de Batna, 1911–1912 (A. Nelva coll.); Environs de Tunis, March—April 1915 (M. Blane); Sebdou, May 1918 (P. Rotrou).

In the British Museum are 1 3 Hammam Meskoutine, March 1911, Meade-Waldo.

205. Scotogramma implexa (Hübn.).

Noctua implexa Hübner, Samml. Eur. Schmett. Noct. f. 414 (1827).

Our series at Tring consists of 225 specimens from Khenchela, May 1912 (W. R. and K. J.); Batna, 1909–1914 (A. Nelva coll.); Souk Ahras, April 1914 (W. R. and K. J.); Guclt-es-Stel, April—May 1912–1913 (W. R. and K. J., and Faroult); Sebdou, Forêt de Tenira, May 1918 (P. Rotrou); Sidi-bel-Abbès, May 1918 (M. Rotrou).

The British Museum has 4 Khenchela ex Tring Museum.

206. Centropodia inquinata (Mab.).

Hadena inquinata Mabille, Bull. Soc. Entom. France, 1888, p. 43 (Gabes).

I have only received this insect from Guelt-es-Stel. 69 Guelt-es-Stel, October 1912–1913 (V. Faroult). The British Museum has 1 & Egypt.

207. Antitype flavicincta (Schiff. and Den.).

Phalaena flavicincta Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 72 (1775) (Vienna).

I have 55 Algerian specimens of this insect from Blida les Glacières, October— November 1910 (Dr. Nissen); Environs de Batna, 1910-1914 (A. Nelva and Faroult); Sidi-bel-Abbès, November 1916–1918 (M. Rotrou); Hammam R'hira, December and January 1916–1918 (V. Faroult); Lalla Marnia December 1914, Lambiridi October 1910, Blida November 1915, Guillaumet December 1913 (V. Faroult).

[Antitype nigrocincta (Treit.).

Polia nigrocincta Treitschke, Schmett. Eur. vol. v. pt. 2. p. 31 (1825) (Mödling, nr. Vienna).

I have never received this species from, or found it in, Mauretania.]

208. Antitype dubia (Dup.).

Polia dubia Duponchel, Lépid. France, Supp. vol. iii. p. 286. pl. 26. f. 4 (1836) (Aix).

I received a 3 of this species from Monsieur A. Nelva and 1 from Monsieur M. Rotrou.

1 & Environs de Batna, 1911–1912 (A. Nelva coll.); 1 & Sidi-bel-Abbès, December 1916 (M. Rotrou).

209. Antitype subvenusta Püng.

Antitype subvenusta Püngler, Iris, vol. xix. p. 94 (1906) (Jerusalem).

Although this species was described from Palestine, so many Steppe and Desert insects have a very wide distribution, that it is not very strange for it to turn up in Algeria.

The specimens I have are all paler than the drawing made from Herr Püngler's type, but as they are not quite fresh and vary also much inter se, I do not venture to separate them subspecifically.

I have $12 \ 33$, $1 \ 9$ of this species.

12 ♂♂, 1 ♀ Environs de Batna, September 1910–1914 (A. Nelva and Faroult).

210. Antitype argillaceago deliciosa (Oberth.).

Polia venusta deliciosa Oberthür, Bull. Soc. Entom. France, 1907, p. 345 (Sebdou); Etud. Lépid. Comp. fasc. iii. pl. xxvii. ff. 147, 154 (1909).

Mr. William Warren in Seitz (Grossschm. Erde, vol. iii. p. 136) treats this insect as an aberration of argillaceago; this is certainly wrong, as typical examples of argillaceago do not occur in Algeria. Mr. Oberthür originally described this as a subspecies of argillaceago Hübn. (venusta Boisd. was described in 1840, and so must sink, as argillaceago dates from 1827); but in 1919 (Etud. Entom. Comp. fasc. xvi. p. 143) he treats it as a distinct species. I think the original status attributed to this very beautiful insect by its describer is the correct one, and therefore it is here enumerated as a subspecies of argillaceago, notwithstanding my contrary statement in 1914 (Novit. Zool. vol. xxi. p. 330, sub No. 158 (1914)).

I have 65 33 and 7 Ω , all from Guelt-es-Stel, of which 11 33, 1 Ω are absequamosa Rothsch. (= f. 147 Oberthür).

54 33, 6 QQ Guelt-es-Stel, September—November 1912–1913 (V. Faroult). ab. squamosa Rothschild, Novit. Zool. vol. xxi. p. 330, snb No. 158 (1914) (Guelt-es-Stel).

11 33, 1 ♀ Guelt-es-Stel, September—November 1912–1913 (Faroult).

211. Antitype germana Rothsch.

Antitype germana Rothsehild, Novit. Zool. vol. xxi. p. 330. No. 159 (1914) (Guelt-es-Stel). Polia rosinata Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 142. pl. xdvi. f. 4119 (1919) (Guelt-es-Stel).

Mr. Oberthür as usual has renamed my insect, because I had not figured it. 7 ♂♂, 3 ♀♀ Guelt-es-Stel, September--October 1913 (V. Faroult). 1 ♂ in the British Museum from same source ex Tring Museum.

212. Antitype hagar Rothsch. (Pl. XVII. f. 1.)

Antitype hagar Rothschild, Novit. Zool. vol. xix. p. 125. No. 4 (1912) (Bou Saada).

2 33 Bou Saada, March—April 1911-1912 (V. Faroult).

213. Antitype sahariensis Rothsch.

Antitype sahariensis Rothschild, Ann. Mag. Nat. Hist. (8) xvi. p. 251. No. 23 (1915) (Rharis). Polia salmonea Obertbür, Etud. Entom. Comp. fasc. xvi. p. 142. pl. xdvi. f. 418 (1919) (Biskra).

Once more Mr. Oberthür creates a useless synonym.

I have received 3 specimens of this rare insect; I had completely overlooked the Colomb-Bechar specimen.

1 & Colomb-Bechar, February 1912 (V. Faroult); 1 & Rharis, Central Sahara. April 1914 (Geyr von Schweppenburg); 1 & Djebel Antar, May 1918 (V. Faroult),

214. Antitype discalis Rothsch.

Antitype discalis Rothschild, Novit. Zool. vol. xix. p. 125. No. 3 (1912).

1 ♂, 1 ♀ Batna, October 1910 and 1912 (A. Nelva and Faroult).

215. Antitype rosea Rothsch.

Antitype rebecca ab. rosea Rothschild, Novit. Zool. vol. xxi. p. 330. sub No. 157 (1914) (Guelt-es-Stel). Epunda concolor Oberthür, Etud. Lépid. Comp. p. 143. pl. xdvii. ff. 4120, 4121 (1919) (Géryville).

In 1914 I wrongly identified this insect with rebecca Stdgr.

It therefore is rather unfortunate that my aberrational name *rosea* has to stand for the species.

The ground-colour varies from whitish cream or buffish grey to rosy or salmony einnamon.

The ab. suffusa is densely powdered with mouse-grey scales.

I have 37 33, 5 ♀♀, all from Guelt-es-Stel.

37 ♂♂, 5 ♀♀ Guelt-es-Stel, September—October 1912—1913 (V. Faroult).

In the British Museum 2 33 Guelt-es-Stel ex Tring Museum.

216. Eumichtis lichenea (Hübn.).

Noctua lichenea Hübner, Samml. Eur. Schmett. Noct. ff. 562, 563 (1827).

I have 71 Mauretanian specimens from Guelt-es-Stel, October 1912–1913 (V. Faroult); Environs de Batna (A. Nelva coll.); Aflon October 1916, Hammam R'hira February 1918, Lalla Marnia October 1914 (V. Faroult); Sidi-bel-Abbès, October—November 1917 (M. Rotron); Forêt de Tenira, November 1918 (P. Rotrou).

217. Aporophyla chioleuca (Herr.-Sch.).

Polia chioleuca Herrich-Schäffer, Syst. Bearb. Schmett. Eur. vol. ii. p. 255. No. 221. Noct. pl. 16. ff. 76-78 (1845) (S. Europe).

Sir George Hampson employs the name mioleuca Treit. (Schmett. Eur. vol. x. Suppl. pt. ii. p. 43 (1835) (Sicily)) for this insect. There is grave doubt as to this being correct; Treitschke quotes his insect as being Hübner's mioleuca, giving Samml. Schmett. Eur. Noct. ff. 545, 746 as the citation; now Hübner's mioleuca has been quite correctly identified by Sir George Hampson as Agriopis acruginea Hübn., and must stand as aeruginea mioleuca Hübn., or only as aeruginea ab. mioleuca should it be shown that it occurs together with the type, Moreover, Treitscke lays stress in his description (p. 44) on the basal area of the forewing being marked grey and yellow, which is the case in aeruginea, but certainly not in the Aporophyla. I am therefore convinced that mioleuca and chioleuca Treit. (p. 46) are both referable to aeruginea Hübn., and that the first name available for this insect is chioleuca H.-S. Mr. Oberthür considers mioleuca Ramb. a distinct local race of chioleuca, but I feel sure it is only a more sombre-coloured aberration.

The Tring series consists of 11 33 from Hammam R'hira, December 1917 (V. Faroult); Blida March 1915, Bordj-ben-Anéridj October 1912 (V. Faroult); Aflou, October 1916 (V. Faroult); Sidi-bel-Abbès, September 1918 (M. Rotrou); Forêt de Tenira, November 1918 (P. Rotrou).

218. Aporophyla nigra (Haw.).

Noctua nigra Haworth, Lepid. Brit. p. 192 (1809).

Our series of Mauretanian examples at Tring consists of 50 specimens from Guelt-es-Stel October—November 1913, Aflou October 1916, Lalla Marnia November 1914 (V. Faroult); Sidi-bel-Abbès, November 1916 (M. Rotrou).

219. Eombycia chrétieni (Rothsch.).

Calophasia chréticni Rothschild, Novit. Zool. vol. xxi. p. 327. No. 137 (1914) (Guelt-es-Stel). Bombycia viminalis emir Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 146. pl. xdvi. ff. 4122, 4123 (1919) (Sebdou, Lambessa).

Mr. Oberthür has placed this insect as a subspecies of *viminalis* Fabr. and of course renames it *emir* because I did not figure it.

It is certainly a distinct species and not a race of *viminalis*; but it may turn out to be *angularis* Chrét. If, however, the drawing in the British Museum made from Mr. Chrétien's type is correct, it is not *angularis*, for the hindwing in Q angularis is white and the pattern is different.

I have at Tring 9 33, 27 \rightleftharpoons , viz. 2 33, 2 \rightleftharpoons Sebdou, June 1918 (P. Rotrou); 1 \rightleftharpoons Hammam Meskoutine, May 1914 (W. R. and K. J.); 2 \rightleftharpoons Guelt-es-Stel, May 1913 (V. Faroult); 1 \rightleftharpoons Sakamodi, August 1912 (V. Faroult).

The \mathcal{Q} from Sakamodi is different from the 5 other \mathcal{Q} ; the hindwings are nearly white, the orbicular stigma is smaller, rounder, and more distinct, and the central one-third of the forewings is much blacker; this is probably *angularis* Chrét.

[Valeria oleagina (Schiff. & Den.).

Bombyx oleagina Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 59 (1775) (Vienna),

I have not received this species from Mauretania.]

220. Meganephria oxyacanthae (Linn.).

Phalaena oxyacanthae Linnaeus, Syst. Nat. edit. x. p. 516. No. 113 (1758).

I have only received 3 specimens of this insect from Algeria.

2 33 Hammam R'hira, December 1917 and January 1918 (V. Faroult); 1 3 Environs de Batna, 1914 (A. Nelva coll.).

Mr. Oberthür unites the Algerian examples with oxyacanthae benedictina Stdgr., but my 3 specimens from Algeria are very different from all my 226 specimens of o. benedictina from Amasia. The Algerian form will probably require a new subspecific name, but I have too few to venture on this course.

[Agriopis aprilina bouveti D. Lucas.

Agriopis bouveti Daniel Lucas, Ann. Soc. Entom. France, 1905. p. 51. pl. 5. ff. 2, 3 (Le Tarf).

I have never received this.]

221. Trigonophora meticulosa (Linn.).

Phalaena meticulosa Linnaeus, Syst. Nat. edit. x. p. 513. No. 95 (1758) (Sweden).

The Mauretanian series at Tring consists of 75 specimens from Guelt-es-Stel, May 1913 (V. Faroult); Sidi-bel-Abbès, September—October 1917–1918 (M. Rotrou); Environs de Batna (A. Nelva coll.); Aïn Draham September 1911, Boghari May 1913, Hammam R'hira March 1916 (V. Faroult).

222. Rhizotype flammea (Esp.).

Bombyx flammea Esper, Schmett. vol. iii. p. 269. No. 79. pl. 53. f. 3 (1785) (South Italy).

Mr. Oberthür uses Hübner's name of *cmpyrca* for this species, because he says the name *flammea* has been applied to so many noctuids. As, however, they all belong to different genera and subfamilies, the danger of mistakes is not so formidable as Mr. Oberthür thinks; certainly in this case it cannot justify the discarding of a name which has 32 years' priority over that of Hübner.

My Algerian material is very poor, 18 ♂♂, 5 ♀♀ from Lambessa and Environs de Batna, October 1912–1914 (A. Nelva coll.); Sidi-bel-Abbès, November 1917 (M. Rotrou); Forêt de Tenira, October 1918 (P. Rotrou).

223. Rhizotype crassicornis obscura (Oberth.).

Phlogophora crassicornis obscura Oberthür, Etud. Lépid. Comp. fase. xvi. p. 152. pl. edlxxxii. ff. 3974, 3975 (1919) (Lambessa).

Mr. Oberthür on pages 148–152 gives an elaborate history of jodea H.-S. and very clearly points out the differences between the present species and that one. While both jodea and crassicornis occur together in Europe, in Mauretania only crassicornis occurs. Mr. Oberthür points out also that Algerian crassicornis differs considerably from those of Digne; he, however, only names a ♀ aberration of it. As the whole of the Algerian crassicornis are different from typical Digne specimens, Mr. Oberthür's aberrational name becomes the subspecific name, and the Mauretanian form must be called Rhizotype crassicornis obscura (Oberthür).

The Tring series is very poor, 16 ♂♂, 4 ♀♀ from Lambessa and Batna, October 1912–1914 (A. Nelva coll.).

224. Euplexia lucipara leonhardi Rebel.

Euplexia leonhardi Rebel, Verk. Zool. Bot. Gesell. Wien, vol. 59. p. 331. No. 1. text fig. 2 (1909) (Alma).

Of this species the Tring series of Mauretanian examples consists of 129 specimens from Aïn Draham, August—September 1911 (V. Faroult); Environs d'Alger, March—April, 1906–1911 (W. R. and E. H. and Dr. Nissen); Guelt-es-Stel September 1913, Environs de Setif 1911 (V. Faroult). This is a darker, duskier local subspecies, but the pattern differences given by the author are not confirmed in my series of 129 specimens.

225. Polyphaenis xanthochloris graslini Culot.

Polyphaenis xanthochloris var. graslini Culot, Noct. et Géom. d'Eur. pt. i. vol. i. p. 200. pl. 37. f. 5 (1913) (Castille).

My two Mauretanian specimens agree well with Culot's figure of the Castille specimen, allowing for the difference of sex.

1 ♂ Aïn Draham, September 1910 (V. Faroult); 1 ♂ El Mahouna, September 1919 (V. Faroult).

226. Luperina Ieucophaea (Schiff. & Den.).

Phalaena leucophaea Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 82 (1775) (Vienna).

This insect is stated by Mr. Oberthür to be very abundant near Lambessa, but I have only received 2 specimens.

2 33 Environs de Batna, 1914 (A. Nelva coll.).

227. Scotogramma sodae rosacea subsp. nov.

Mr. Oberthür states that Algerian examples of *sodae* Ramb, are much more rose-coloured than French examples. This is a constant character, and so I have named this form *rosacea*.

Our series consists of 27 examples from El Mesrane June 1913, Bou Saada May 1911 (V. Faroult); Biskra, March—April 1908-1914 (W. R. and E. H.).

The British Museum has 1 & Gafsa, Tunisia, 1913, G. C. Champion; 1 & Hammam-es-Salahin, April 1904, Lord Walsingham.

228. Scotogramma trifolii cinnamomina Rothsch.

Scotogramma cinnamomina Rothschild, Novit. Zool. vol. xx. p. 121. No. 36 (1913) (Nza-ben-Rzig).

The Mauretanian examples are all more rosy-cinnamon, less grey, in tint than European ones, and so my name, given to an extra strikingly coloured specimen, must stand for the subspecies.

Sir George Hampson and others have united with the typical form of this species treitschkei Boisd.; this is, however, erroneous, as the genitalia are very different; treitschkei is identical with Hübner's pugnax, so this species will have to stand as Scotogramma pugnax (Hübn.).

The Mauretanian series at Tring consists of 285 specimens from Bou Saada April—May 1911-1912, Laghouat and Tilghemt April 1912, El Kantara March—April 1911, Environs de Setif 1911 (V. Faroult); Ghardaïa May 1912, Oued

Nça April 1914, Sands of El Arich May 1912, Mraier February 1912 (Hartert and Hilgert); Bordj Chegga, March 1917 (V. Faroult); Biskra March—April 1908–1909, Bordj Saada April 1909 (W. R. and E. H.); Environs de Batna, 1913–1914 (A. Nelva coll.); Khenchela, May 1912 (W. R. and K. J.); Hammam Meskoutine, May 1914 (W. R. and E. H.); Aïn Draham, September 1911 (V. Faroult); Hammam R'hira, May 1908–1913 (W. R., E. H., and K. J.); Perrégaux October 1915, Aflou October 1916, Guelt-es-Stel May—November 1912–1913 (V. Faroult); Sidi-bel-Abbès, June—August 1916–1917 (M. Rotrou); Mecheria June 1918, Aïn Sefra May 1914, Colomb-Bechar March—April 1912 (V. Faroult); Forêt de Tenira October 1918, Tlemcen August 1918 (P. Rotrou); Environs de Taourirt, Morocco, July 1918 (M. Rotrou).

The British Museum has 1 ♀ Algeria, Mrs. Nicholl.

229. Scotogramma chimaera sp. nov. (Pl. XVII. f. 6.)

 \mathcal{S} . Differs from t, cinnamomina in its large size, bright sandy cinnamon ground-colour, proportionately narrower wings, very large and rounded reniform stigma, and the black submarginal band on the forewings. On the hindwings all the veins are picked out in blackish grey.

Length of forewing, 19 mm.; expanse, 43 mm.

1 & Ain Sefra, March 1915 (V. Faroult).

230. Cardepia deserticola Hmpsn. (Pl. XVII. ff. 2, 3.)

Cardepia irrisor ab. deserticola Hampson, Cat. Lepid. Phal. Brit. Mus. vol. v. p. 235, sub No. 1457, 1905 (Syria).

Cardepia affinis Rothschild, Novit. Zool. vol. xx. p. 122. No. 40 (1913) (Kef-el-Dohr).

Sir George Hampson when diagnosing his new genus Cardepiu gave as the principal difference the reniform truncate and strongly protruding frontal prominence, which was excised below. I may add from examination at Tring that this prominence has a distinct rolled edge or rim.

Now Sir George Hampson places in this genus Cardepia two species, irrisor Ersch, and nova Smith.

Under *irrisor* he describes from Syria an aberration under the name ab. deserticola. I have a number of specimens agreeing with his ab. deserticola from the desert regions of Algeria, all showing the strongly developed reniform frontal process, with a distinct rolled rim.

When, however, Dr. Jordan examined our Ural and Turkestan *irrisor*, he found that the frontal prominence was quite different, being round, flatter, and devoid of the rolled rim.

We found 12 specimens, mostly from the Central Hauts Plateaux of Algeria, agreeing in the shape and morphology of the frontal prominence with *irrisor*. It therefore becomes quite clear that at least two species have been confounded under the name *irrisor*, and they must for the present stand as *Cardepia irrisor* (Ersch.) (Pl. XVII. f. 4) and *Cardepia deserticola* Hmpsn.

Of deserticola we have at Tring 30 Mauretanian specimens from El Outaya March 1911, Bou Saada May 1910, 1911, Guelt-es-Stel March, El Mesrane June 1913, Colomb-Bechar March—April 1912 (V. Faroult); Bordj Chegga, February—March 1912 and 1917 (Hartert and Hilgert, and Faroult); Kef-el-

Dohr, February 1912 (Hartert and Hilgert); Bir Djefair, March 1909 (W. R. and E. H.).

The British Museum has 2 33, 1 $\+$ Hammam-cs-Salahin, February—April 1904, Lord Walsingham.

231. Cardepia irrisor mauretanica subsp. nov. (Pl. XVII. f. 5.)

3 \circ . Differ from *irrisor* in having rounder shorter wings, in the ground-eolour of the forewings being browner less whitish, and in the hindwings being much less white. The pattern on the forewings is also much less distinct.

9 & , 1 \circlearrowleft El Mesrane, June 1913 (V. Faroult); 1 \circlearrowleft Bou Saada, May 1912 (V. Faroult); 1 \circlearrowleft Khenchela, May 1912 (W. R. and K. J.); 1 \circlearrowleft Perrégaux, September 1915 (V. Faroult).

This species has the frontal process rounded, and the rolled rim found in deserticola is absent.

232. Miselia oleracea variegata (Aust.).

Mamestra variegata Austaut, Le Nat. ser. i. vol. vii. p. 142 (1885) (Oudjda).

Monsieur Oberthür is quite right when he says that the ground-colour of the Mauretanian race is vinous maroon rather than reddish oehraceous. He is also right in saying that the late Mr. Warren had not any accurate knowledge of the Mauretanian form of oleracca. I find under ab. variegata Aust. in the collection at Tring (the part arranged by Mr. Warren), 7 specimens from the Issykul and Thian Shan regions agreeing exactly with the figure in Seitz of variegata, i.e. of a greyish ochraceous colour, while Mr. Warren had placed 7 Mauretanian examples among the series of typical oleracca.

The Tring series of oleracca variegata (vera) consists of 164 specimens from Hammam R'hira, May 1908–1917 (W. R. and K. J., and Faroult); Environs d'Alger, March—May 1907–1911 (W. R. and E. H., and Dr. Nissen); Environs de Setif, 1911 (V. Faroult); Mazagan, Moroeco, February 1903 (W. Riggenbaeh); Aïn Draham, August—September 1911 (V. Faroult); Sidi-bel-Abbès, Messer, September 1917 (M. Rotrou); Environs de Taourirt, Morocco, July 1918 (M. Rotrou); Souk Ahras, April 1914 (W. R. and K. J.); El Mahouna, June 1919 (V. Faroult).

233. Eumichtis solieri (Boisd.).

Hadena solieri Boisduval, Ind. Meth. p. 120 (1840) (Provence, Sicily).

Our series from Mauretania consists of 198 specimens from Mazagan and Mhoiwla, Moroeco, Oetober 1902, Seksawa, Moroeco, April 1905 (W. Riggenbach); Oudjda, Moroeco, November 1914 (V. Faroult); Lalla Marnia, November 1914 (V. Faroult); Forêt de Tenira, October 1918 (P. Rotrou); Sidi-bel-Abbès September—Oetober 1917 (M. Rotrou); Bou Saada, March 1912 (V. Faroult), February—March 1908 and 1916 (W. R. and E. H., and Faroult); El Kantara, Biskra, March—April 1911 (W. R. and E. H., and Faroult); Lambiridi, Oetober 1910 (V. Faroult); Lambessa and Environs de Batna, 1911–1914 (A. Nelva coll.); Hammam Meskoutine, April 1914 (W. R. and E. H.); Aïn Draham, September—October 1911 (V. Faroult); Bordj-ben-Anéridj, November 1911 (V. Faroult); Hammam R'hira, January—May 1911–1918 (W. R., E. H., and K. J., and Faroult); Environs d'Alger, March—May 1907–1912 (W. R., E. H., and K. J., and Dr. Nissen); El Mahouna, September 1919 (V. Faroult).

234. Parastichtis arabs arabs (Oberth.).

Hadena solieri var. (ou aberr.) arabs Oberthür, Etud. d'Entom. livr. vi. p. 88. pl. xi. f. 8 (1881) (Sebdou).

Mr. Oberthür quite rightly says that standfussi Turati and ribbei Püngl. are only local subspecies of arabs; of which there are now 5 subspecies described: (1) arabs arabs Oberth., (2) arabs biskrae Oberth., both confined to Algeria, the first in the Hauts Plateaux region, the second in the Desert Zone; (3) arabs standfussi Turati; (4) arabs ribbei Püngl.; (5) arabs polyglypha Stdgr. Of the three latter we know No. 3 from Sicily and the coast region near Alger, while No. 4 is so far known only from Spain and No. 5 is known only from Palestine.

Of arabs arabs we have at Tring 28 specimens from Sebdou, May 1918 (P. Rotrou); Khenehela, May 1912 (W. R. and K. J.); Batna, May 1915 (A. Nelva coll.).

235. Parastichtis arabs standfussi (Turati).

Hadena standfussi Turati, Nat. Sic. vol. xx. p. 27. pl. vi. ff. 17, 18 (1908) (Busambra).

This form is at once recognisable by its much greyer ground-colour, though not so clear grey as in *arabs ribbei*.

Described from Sieily, the specimens recorded below are, I believe, the first record for Algeria.

1 & Blida les Glacières, June 1908 (W. R. and K. J.) ; 1 & Sebdou, June 1918 (P. Rotrou).

[Parastichtis arabs biskrae (Oberth.).

Hadena arabs biskrae Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 157 (1919) (Biskra).

I have no specimens of this pale sandy desert form.]

236. Eremobia alpigena (Boisd.).

Hadena alpigena Boisduval, Icon. Hist. Lépid. Tome ii. pl. 84. f. 5 (1834).

The series of this insect at Tring consists of 1 specimen from Digne (Victor Cotte) and 26 from Algeria taken by ourselves.

26 Khenchela, May 1912 (W. R. and K. J.).

237. Eumichtis monochroma (Esp.).

Phalaena monochroma Esper, Schmett. vol. iv. pt. ii. p. 521. No. 216. pl. clv. ff. 3-6 (1791) (Florence).

Of this species the Mauretanian series at Tring consists of 47 specimens from Environs de Batna May 1915, Lambessa October 1915 (A. Nelva coll.); Aflou, October 1916 (V. Faroult); Aïn Draham, September 1911 (V. Faroult); Sidibel-Abbès, September 1917 (M. Rotrou); Guelt-es-Stel, October 1912–1913 (V. Faroult); El Mahouna, September 1919 (V. Faroult). Of these 20 are the grey form and 26 the dark form, and 1 is ab. suberis.

238. Eumichtis roboris cerris (Boisd.).

Hadena roboris var. cerris Boisduval, Ind. Meth. p. 121, sub No. 961 ct footnote (1) (1840) (Spain, S. France).

Mr. Oberthür says that this insect is common at Lambessa in October and November, and that Mr. Harold Powell took over 80 specimens; I have only 3 Algerian specimens, and a specimen without locality out of the Sand collection.

1 ♂ Hammam Meskontine, April 1914 (W. R. and K. J.); 1 ♂, 1 ♀ Aflou, October 1916 (V. Faroult).

239. Dryobota furva (Esp.).

Phalaena furva Esper, Schmett. vol. iv. pt. ii. p. 530. pl. 158. ff. 1, 2 (1789) (Florence).

Here again Mr. Oberthür states that this insect is very common, while I have only received from Algeria 4 specimens. Mr. Oberthür employs the name occlusa for this species and gives as the author Esper. The name occlusa, however, was given by Hübner in 1827, 38 years subsequent to the date of Esper's furva, and so the latter must be used.

3 ♂♂, 1 ♀ Batna (A. Nelva coll.); 1 ♂ Guelt-es-Stel, October 1913 (V. Faroult).

239a. Eumichtis accipitrina (Esp.).

Phalaena accipitrina Esper, Schmett. vol. iv. pt. ii. p. 393. pl. 129. f. 4 (1788) (Erlangen).

The series of this species at Tring consists of 56 Mauretanian specimens from Aflon, October 1916 (V. Faroult); Lambessa and Batna, October 1911–1915 (A. Nelva); Aflou October 1916, Guelt-es-Stel October—November 1913 (V. Faroult).

240. Eumichtis protea (Schiff. & Den.).

Phalaena protea Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. S4 (1775) (Vienna).

Of this very variable insect I have 154 Algerian specimens from Environs de Batna and Lambessa, October 1911–1915 (A. Nelva coll.); Aflou, October 1916 (V. Faroult); Guelt-es-Stel, October 1913 (V. Faroult).

241. Lophoterges millierei (Stdgr.).

Lithocampa millierei Staudinger, Berl. Entom. Zeitschr. vol. xiv. p. 119 (1870) (Catalonia).

I have only received 1 3, 4 99 of this very beautiful species.

1 ♂, 1 ♀ Sebdon July 1918, 1 ♀ Forêt de Tenira August 1918 (P. Rotrou); 1 ♀ Hammam R'hira, May 1916 (V. Faroult); 1 ♀ El Mahouna, July 1919 (V. Faroult).

242. Dichonea areola mustapha (Oberth.).

Xylocampa lithorhiza mustapha Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 164. pl. xdvi. f. 4124 (1919) (Lambessa).

Mr. Oberthür uses for this species Borkhausen's name of *lithorhiza* because Guenée used it, but he acknowledges that it is the *areola* of Esper. As Esper's name antedates Borkhausen's by 3 years, the species must stand as *areola* Esp.

We have at Tring 7 Mauretanian specimens from Alger, March 1914 (V. Faroult); Blida February 1916, Hassi Baba November 1917, Hammam R'hira February 1918, Lalla Marnia November 1914, Guelt-es-Stel October 1912 (V. Faroult).

243. Axylia exsoleta (Linn.).

Phalaena exsoleta Linnaeus, Syst. Nat. edit. x. p. 515. No. 104 (1758).

Almost all authors subsequent to Linnaeus spell the specific name of this species exoleta, but Linnaeus spells it exsoleta, both as regards the name he bestows on the present insect and in the diagnosis; he also spells it so in a footnote. Now although the method of spelling the adjective exoletus is more often used than the spelling exsoletus, both are correct Latin according to standard dictionaries, and therefore as Linnaeus deliberately uses the spelling with the s this must be adopted.

This insect appears to be rather uncommon in Mauretania. We have 6 specimens from Chauzy 1914 (M. Rotrou); Blida February 1916, Guelt-es-Stel March—September 1913 (V. Faroult); 1 larva Aïn Sefra, May 1913 (W. R. and E. H.); 1 larva Hammam R'hira (V. Faroult); 1 ♀ Aflou, October 1916 (V. Faroult).

244. Lithophane semibrunnea (Haw.).

Noctua semibrunnea Haworth, Lepid. Brit. p. 171 (1809).

The Algerian specimens I have are greyer than European ones. Mr. Oberthür also mentions this, but states that Tunisian (Aïn Draham) specimens are very red. As I have too few to judge, I refrain from naming it.

1 ♂ Batna October 1910, 1 ♂ Perrégaux November 1915, 2 ♂♂, 1 ♀ Hammam R'hira February 1918 (V. Faroult).

245. Grapholitha lapidea ochreimacula (Rothsch.).

Cloantha ochreimacula Rothschild, Novit. Zool. vol. xxi. p. 329. No. 148 (1914) (Guelt-es-Stel).

It was unfortunate that I described this insect from the form with the yellow reniform.

The Algerian subspecies differs from the European by being a duller purer grey with the pattern more obliterated.

1 & Guelt-es-Stel, November 1913 (V. Faroult); 1 & Batna, October 1910 (V. Faroult).

246. Cucullia verbasci (Linn.).

Phalaena verbasci Linnaeus, Syst. Nat. edit. x. p. 515. No. 105 (1758).

I never received this insect in any numbers, only 7 specimens coming to hand in eleven years.

1 3, 1 \$\mathref{Q}\$ Hussein Dey, Alger, April 1910 (Captain Holl); 2 33 Batna, May 1915 (A. Nelva); 1 3 Hammam Meskoutine, April 1914 (W. R. and K. J.); 1 3 Souk Ahras, 1 3 Tebessa, April 1914 (W. R. and K. J.)

247. Cucullia thapsiphaga Treit.

Cucullia thapsiphaga Treitschke, Schmett. Eur. vol. v. pt. 3. p. 120. No. 16 (1826) (Styrian Frontier). Of this species I only received 1 3, 2 \$\text{Q}\$.

1 &, 1 \circlearrowleft Batna, May 1912 (A. Nelva coll.) ; 1 \circlearrowleft Hammam R'hira, May 1916 (V. Faroult).

248. Cucullia scrophulariphaga Ramb.

Cucullia scrophulariphaga Rambur, Ann. Soc. Entom. France, 1833, p. 20. pl. 1. f. 4 (Corsica).

Of this species I have also not received many.

5 33, 1 ♀ Environs de Batna, May 1912 (A. Nelva).

249. Cucullia oberthuri Rothsch. (Pl. XVI, f. 6.)

Cucullia oberthuri Rothschild, Ann. Mag. Nat. Hist. (8) viii. p. 232, No. 3 (1911) (Bou Saada).

This is the insect Mr. Oberthür identified as anceps Stdgr. I have compared it with anceps from various localities at Tring and in the British Museum, and Sir G. Hampson agrees that it is a distinct species and not anceps (Pl. XVI. f. 5).

The series now at Tring has been augmented by 3 specimens to 7 in all. 4 33 Bou Saada April—May 1911, 1 3 El Kantara March—April 1911, 1 3 Hammam R'hira April 1917 (V. Faroult); 1 3 Khenchela, May 1912 (W. R. and K. J.).

250. Cucullia blattariae (Esp.).

Phalaena blattariae Esper, Schmett. vol. iv. pt. ii. p. 518. No. 214. pl. 154. f. 4 (1786) (Florence).

1 & Plaines au Sud de Sebdou, May 1918 (P. Rotrou).

251. Cucullia scrophulariphila Stdgr.

Cucullia scrophulariphila Staudinger, Stett. Entom. Zeit. vol. xx. p. 215. No. 10 (1859) (Chiclana).

The ground-colour is more whitish in my Algerian specimens than in Spanish ones, but this seems to be the case in all the Mauretanian Cucullias of the *verbasci* group. The Khenchela specimen is also much darker than the Aïn Sefra ones.

1 ♂ Khenchela, June 1911 (V. Faroult); 2 ♂♂, 1 ♀ Aïn Sefra, March 1915 (V. Faroult).

251a. Cucullia biskrana Oberth.

Cucullia biskrana Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 167. pl. xdvi. ff. 4125, 4126 (1919) (Biskra).

I have only received 1 3 of this species.

1 & 20 kil. S. of Bledet Amar, December 1913 (Geyr von Schweppenburg).

252. Cucullia beata sp. nov. (Pl. XVI, f. 7.)

3. This I consider the handsomest species of the umbratica group.

Antennae brown, basal 10th white; head ash-grey; thorax pale bluish ash-grey; abdomen paler, more whitish ash-grey, slightly tinged with cream colour laterally, median dorsal line and anal tuft darker.

Forewing pale bluish ash-grey, slightly freekled with brown-grey scales, nervures in outer half darker, a median black line from base to halfway along and below median nervure followed by a much heavier oblique black band at the base of which is a cross bar. Above vein 4 is a narrow black line.

Hindwings semi-vitreous white, nervures and marginal band ash-grey.

Length of forewing, 17 mm.; expanse, 39 mm.

1 & Sebdou, September 1918 (P. Rotrou).

This species is nearly allied to taniceti Schiff., but is much smaller, and the black markings are very different.

253. Cucullia chamomillae calendulae Treit.

Cucullia chamomillae var. calendulae Treitschke, Schmett. Eur. vol. x. pt. 2. p. 127 (1835) (Sicily).

I have 61 Algerian specimens from Guelt-es-Stel, March—November 1912–1913 (W. R. and K. J., and Faroult); Bou Saada, March—May 1911–1912 (V. Faroult); Souk Ahras and Tebessa, April 1914 (W. R. and K. J.); Khenchela, May 1912 (W. R. and K. J.); El Kantara, March—April 1911 (W. R. and E. H., and Faroult); Bordj Chegga, February 1912 (Hartert and Hilgert); Lalla Marnia May 1914, Hammam R'hira February 1918 (V. Faroult); Berrouaghia, April 1914 (V. Faroult); Mazagan, Morocco, March—April 1902 (W. Riggenbach). Among these are several fine examples of ab. amoenissima Oberthür, Etud. Lépid. Comp. fase. xvi. p. 169. pl. xdvi. f. 4129 (1919) (Biskra).

In the British Museum is 1 & Morocco, January—February 1902, Meade Waldo.

254. Cucullia santolinae Ramb.

Cucullia santolinae Rambur, Ann. Soc. Entom. France, vol. iii. p. 387. pl. 8. f. 4 (1834) (Corsica).

Of this species the series at Tring from Mauretania numbers 37 from Gueltes-Stel, March—April 1912–1913 (W. R. and K. J., and Faroult); Bou Saada, May 1912 (V. Faroult); El Kantara March—April 1911, Boudj-ben-Anéridj November 1911, Hammam R'hira February 1918 (V. Faroult); Batna (Nelva coll.); Khenchela May 1912, Hammam Meskoutine April 1914 (W. R. and K. J.); Environs d'Alger and Hussein Dey, January—December 1908–1911 (W. R. and E. H., and Captain Holl); Mazagan, Morocco, February 1902 (W. Riggenbach). One of the 2 specimens from Hammam Meskoutine was bred from a larva found April 1914 and emerged at Tring March 1915.

255, Copicucullia syrtana (Mab.).

Cucullia syrtana Mabille, Bull. Soc. Entom. France, 1888, p. 51 (Gabès).

Of this species the Tring series consists of 85 specimens from Colomb-Bechar February—March 1912, Bir Stil March 1917, El Kantara March—April 1911, Bordj Chegga March 1917, Aïn Draham September 1911 (V. Faroult); Bordj Chegga, Bordj Saada, Nça-ben Rzig, February 1912 (Hartert and Hilgert); Ghardaïa, April 1911 (W. R. and E. H.); Arefidji, March 1912 (Hartert and Hilgert); Biskra, March 1909 (W. R. and E. H.); Oued Abou, January 1914 (Geyr von Schweppenburg).

In British Museum 3 ♂♂, 5 ♀♀ Hammam-es-Salahin, January—March 1904, Lord Walsingham.

256, Empusada argentina (Fabr.).

Noctua argentina Fabricius, Mant. Ins. vol. ü. p. 162. No. 185 (1787) (South Russia).

The Tring series from Mauretania consists of 50 specimens from Aïn Sefra, May 1913 (W. R. and E. H.); Mecheria, May 1918 (V. Faroult); Batna (A. Nelva and Faroult); Bou Saada, May 1912 (V. Faroult); Tilghemt, April 1911–1912 (W. R. and E. H., and V. Faroult); Khenchela, May 1912 (W. R. and K. J.); Les Pins August 1918, Environs de Taourirt September 1918 (M. Rotrou).

257. Brachygalea albolineata (Blach.).

Colophasia albolineata Blachier, Bull. Soc. Entom. France, 1905. p. 53 (Gafsa).

Mr. Warren was perfectly correct in Seitz, when he said that Brachygalea leucorhabda and Criophasia albolineata Hampson are one and the same. As the Zoological Record only comes out more than a year later than the one recorded, it is not astonishing that Sir George Hampson missed Mr. Blachier's article; but it is certainly an unfortunate slip, that he did not notice that his leucorhabda was the same as the insect he received from Bang-Haas under the name albolineata. As leucorhabda is designed as the type of Brachygalea and albolineata as that of Criophasia and Brachygalea has 114 pages priority over Criophasia, it is quite evident that Brachygalea must stand as the genus-name.

Our series at Tring from Maurctania numbers 167 specimens from Biskra, February—March 1908-1914 (W. R. and E. H.); Bir Djefair, March 1909 (W. R. and E. H.); Aïn Sefra, March—May 1913-1915 (W. R. and E. H., and Faroult); Guelt-es-Stel April—May 1913, Bou Saada March 1912, El Kantara March—April 1912 (V. Faroult); Bordj Chegga, February—March 1912-1917 (Hartert and Hilgert, and Faroult); Kef-el-Dohr, Mraier February, Arefidji, north of Ouargla March 1912, Oued Nça April 1914 (Hartert and Hilgert).

In the British Museum are 1 ♂ Tunis; 3 ♂♂, 1 ♀ Hammam-es-Salahin, April 1904, Lord Walsingham.

258. Hypomecia quadrivirgula (Mab.).

Epimecia quadrivirgula Mabille, Bull. Soc. Entom. France, 1888, p. 51 (Gabès).

Our series at Tring of this species consists of 138 specimens from Guelt-es-Stel, October—November 1912-1913 (V. Faroult); Alger January 1914, Bou Saada March 1912, El Mesrane November 1913, Hassi Baba November 1917 (V. Faroult).

259. Rabinopteryx subtilis (Mab.).

Epimecia subtilis Mabille, Bull. Soc. Entom. France, 1888, p. 51 (Gabès).

Mabille was almost right in placing this insect in *Epimecia*, as it is next to that genus, differing in the upturned instead of porrect palpi.

Our Tring series numbers 258 from Guelt-es-Stel March—May 1913, Bou Saada April 1911, Berrouaghia April 1914, Mecheria May 1918 (V. Faroult); Bordj Chegga, February—March 1912-1917 (Hartert and Hilgert, and Faroult); Biskra, March—April 1908-1914 (W. R. and E. H.); Aïn Sefra, March—May 1913-1915 (W. R. and E. H., and Faroult).

The British Museum has 1 ♂, 4 ♀♀ Hammam-cs-Salahin, March—April 1904, Lord Walsingham.

260. Rabinopteryx enelvai sp. nov. (Pl. XVI. f. 4.)

Q. Antennae brown; head and thorax brown-grey variegated and irrorated with dark brown; abdomen yellowish pale grey.

Forewing brown-grey, densely striolated with dark brown; 3 oblique bars on middle of costal area and the orbicular and reniform brown, a somewhat obscured white band below median vein from base almost to termen, beneath

which and coalescing with it is a similar black-brown band. Hindwings creamy grey, somewhat suffused with brownish grey.

Length of forewing, 13 mm.; expanse, 28 mm.

1 ♀ Batna, 1914 (A. Nelva coll.).

261. Catamecia mauretanica Stdgr.

Catamecia jordana var. mauretanica Staudinger, Cat. Lepid. Palaear. Faun. pt. i. p. 213. No. 2192b (1901) (Biskra).

Mr. Oberthür, agreeing with Mr. Culot and Staudinger, places this insect as a subspecies of *jordana* Stdgr., but after examining it with Sir George Hampson I have come to the conclusion that it is a distinct species, both from *jordana* Stdgr. and *minima* Swinh. (=bacheri Stdgr.). It differs from both in the white claviform patch edged with black.

I have 15 specimens.

2 Biskra, March 1909–1911 (W. R. and E. H.); 12 Bordj Chegga, 1 Bir Stil, March 1917 (V. Faroult).

The British Museum has 1 ♀ Tkout, April 1906, 3 ♂♂, 3 ♀♀ Hammam-es-Salahin, April 1904, Lord Walsingham.

[Catamecia jordana balestrei D. Lucas.

Catamecia jordana var. balestrei Daniel Lucas, Bull. Soc. Entom. France, 1907, p. 181 (Nefta).

I have never received this species.]

262. Omia cyclopea (Grasl.).

Cleophana cyclopea Graslin, Ann. Soc. Entom. France, vol. v. 570. pl. 17 B. f. 7 (1836) (Alfakar, Grenada).

All the Omias are extremely rare.

1 \circlearrowleft , 1 \circlearrowleft Lambessa (Staudinger); 1 \circlearrowleft Algeria (Deyrolle); 1 \circlearrowleft El Kantara, May 1909 (W. R. and E. H.).

263. Omia oberthuri Allard.

Omia oberthuri Gaston Allard, Ann. Soc. Entom. France, vol. xxxvi (ser. iv. vol. 3). p. 320. pl. 6. ff. 3a, 3b (1867) (Lambessa).

1 ♂, 1 ♀ Lambessa (Staudinger).

264. Amephana warionis (Oberth.).

Cleophana warionis Oberthür, Etud. Entom. livr. i. p. 48. pl. 2. f. 3 (1876) (Bou Saada).

Our series at Tring contains 185 specimens from Aïn Sefra, May 1913 (W. R. and E. H.); Guelt-es-Stel, April—May 1912—1913 (W. R. and K. J., and Faroult); Bou Saada March—April 1912, El Outaya March, El Mantara March—April 1911 (Victor Faroult); Biskra, Gafsa, Tunis (Staudinger); Tilghemt, April 1911—1912 (W. R. and E. H., and Faroult); Mecheria, Djebel Antar, May 1918 (V. Faroult); Sebdou, May 1918 (P. Rotrou).

In the British Museum are 2 33 Tunis, Staudinger and Bang-Haas.

265. Cleophana boetica diluta Rothsch. (Pl. XV. ff. 16, 17 [18].)

Cleophana boetica diluta Rothschild, Ann. Mag. Nat. Hist. (8) viii. p. 232 (1911) (Bou Saada).

Mr. Oberthür as usual ignores my name, because unaccompanied by a figure; but acknowledges himself that the Algerian form is paler than the two European races.

Our series at Tring contains 409 specimens from Lalla Marnia May 1914, Bou Saada March—April 1912, Berrouaghia April 1914, Masser Mines May 1914, Mecheria May 1918 (V. Faroult); Khenchela, May 1912, Souk Ahras April, Tebessa April 1914 (W. R. aud K. J.); Batna, May 1915 (A. Nelva); Guelt-es-Stel, April—May 1912–1913 (W. R. and K. J., and Faroult); Sebdou, May 1918 (P. Rotrou); Sidi-bel-Abbès, May 1918 (M. Rotrou).

In British Museum 1 & Bou Saada ex Tring Museum.

265a. Amephana warionis × Cl. boetica diluta. (Pl. XV. f. 19.)

This specimen, taken at Guelt-es-Stel by Victor Faroult, April 8th, 1913, appears to me undoubtedly a hybrid between the above two species. It is somewhat intermediate in pattern, and while the general facies and colour are that of *boetica diluta* it is strongly suffused with green.

266. Omphalophana serrata (Treit.).

Cleophana serrata Treitschke, Schmett. Eur. (Suppl.) vol. x. pt. 2. p. 121 (1835) (Sicily).

This species is rather rare in Mauretania.

We have from Mauretania 100 specimens at Tring from Mazagan, Morocco, April 1902 (W. Riggenbach); Morocco (Staudinger); Moroccan Frontier S.W. of Lalla Marnia May 1914, Lalla Marnia May 1914 (V. Faroult); Environs d'Alger May 1908, Hammam Meskoutine April, Souk Ahras April 1914, Khenchela May 1912 (W. R. and K. J.); Aïn Draham and Djerba, Tunisia (Staudinger, Bartels, and Dannehl); Sidi Ferruch, April 1911 (André Théry); Hammam R'hira, May 1908–1917 (W. R., E. H., and K. J., and Faroult); Batna, May 1915 (A. Nelva); El Mahouna, May—June 1919 (V. Faroult).

267. Cleophana jubata Oberth.

Cleophana jubata Oberthür, Etud. Entom. livr. xiii. p. 31. pl. 6. f. 40 (1890) (Gabès).

This is a rare species.

The Tring series contains 71 specimens from Aïn Sefra, May 1913 (W. R. and E. H.); Mecheria May 1918, Bou Saada April—May 1912 (V. Faroult); Tilghemt, April 1911 (W. R. and E. H.); Guelt-es-Stel, April—May 1912–1913 (W. R. and K. J., and Faroult); Sebdou, May 1918 (P. Rotrou).

In the British Museum are 1 ♂, 1 ♀ Tunis, Staudinger and Bang-Haas.

268. Omphalophana pauli (Stdgr.).

Cleophana pauli Staudinger, Iris, vol. iv. p. 36. pl. 4. f. 4 (1891) (Jerusalem).

Of this species there are 74 Mauretanian specimens at Tring from Lalla Marnia April 1914, Mecheria May 1918, Berrouaghia April 1914, Guelt-es-Stel

April—May 1913, Bou Saada March—April 1912 (V. Faroult); Tunis (Staudinger); Aïn Sefra, May 1913 (W. R. and E. H.).

In the British Museum 1 & Tunis, Staudinger and Bang-Haas.

269. Cleophana pectinicornis Stdgr.

Cleophana pectinicornis Staudinger, Stett. Entom. Zeit. vol. xx. p. 215. No. 9 (1859) (Chiclana).

This fine species is abundant in some localities in Algeria.

The Mauretanian series at Tring numbers 454 specimens from Lalla Marnia May 1914, Bou Saada March—April 1912, El Kantara March—April 1911 (V. Faroult); Fontaine Chaude, April 1909 (W. R. and E. H.); Gafsa, Tunisia (Staudinger); Guelt-es-Stel, April—May 1912–1913 (W. R. and K. J., and Faroult); Sebdou, April 1918 (P. Rotrou).

Mr. Oberthür states that the typical Spanish form of this insect differs from Mauretanian examples in the brown being duller and darker. I have never seen Spanish specimens, but Rambur's figure (Cat. Syst. Ins. de l'Andal. pl. xii. f. 4) only shows the fringe of the forewings less yellow, otherwise it agrees exactly.

In the British Museum 1 & Tunis.

270. Copiphana gafsana (Blach.).

Cleophana gafsana Blachier, Bull. Soc. Entom. France, 1905. p. 53 (Gafsa).

Mr. Oberthür quite rightly points out that Cleophana albina B.-H. is nothing but an albinistic gafsana Blach, and rightly says it is intermediate between Mr. Culot's figures 14 and 15, pl. 59. I propose for Mr. Culot's figure 14 the name of ab. intermedia ab. nov., so that there would be 3 named aberrations of gafsana, viz. (1) ab. intermedia Rothsch., pattern of wings fully developed, though much paler than typical form, on a pale ground-colour; (2) ab. albina B.-H., ground-colour pure white, pattern partially obliterated; (3) ab. blachieri Oberth., entirely white nervures showing darker.

This insect appears to be much more confined to the desert regions.

We have at Tring 62 specimens from Colomb-Bechar March—April 1912, Bou Saada April 1911 (V. Faroult); Tilghemt, April 1911–1912 (W. R. and E. H., and Faroult); Ghardaïa, April 1911 (W. R. and E. H.); Tunis (Staudinger); Bir Djefair, March 1909 (W. R. and E. H.); Oued Nça April 1914, N. of El Golea March, Mraier March 1912 (Hartert and Hilgert).

In the British Museum 1 3, 1 ♀ Tunis.

271. Cleophana vaulogeri Stdgr.

Cleophana vaulogeri Staudinger, Iris, vol. xii. p. 378. pl. 5. f. 9 (1899) (Biskra).

Mr. Oberthür says this is very common; I have only had few specimens compared to the numbers of some other species of this group.

The Mauretanian series at Tring consists of 80 specimens from El Outaya March 1911, El Kantara March 1911, Aïn Draham September 1911, Colomb Bechar March—April 1912, Bou Saada, Laghouat March—April 1912, Tilghemt April 1912 (V. Faroult); Aïn Sefra May 1913, Biskra March—April 1908–1914 (W. R. and E. H.); Oued Nça, April 1914 (Hartert and Hilgert).

In the British Museum are 3 37, 3 \rightleftharpoons Hammam-es-Salahin, April 1904, Lord Walsingham.

272. Cleophana fatima B.-H. (Pl. XV. ff. 13-15.)

Gleophana fatima Bang-Haas, Iris, vol. xx. p. 73. p. 3. f. 14 (1907) (Tunis, Gafsa, etc.).

Both Herr Bang-Haas and Mr. Oberthür have mixed up two species under the name fatima—Herr Bang-Haas when sending out specimens to clients and Mr. Oberthür when figuring the species (Etud. Lépid. Comp. fasc. v. pt. i.); in fact Mr. Oberthür has mixed more than two species, as his figure 599 agrees well with versicolor Stdgr.

The diffluens-vaulogeri group are very difficult to unravel, but I am convinced that Staudinger and Hampson have treated too many good species as varieties of diffluens and its European relations. I shall figure these to show the differences more clearly to Mr. Oberthür and his friends, who will not acknowledge any other method of identification.

I have only 4 specimens of this species, which appears to be essentially Tunisian and very rare in Algeria. 1 specimen each from Gafsa, Tunisia (Staudinger) (co-type); Tilghemt, April 1912 (V. Faroult); Ghardaïa, April 1911 (W. R. and E. H.); Oued Nga, April 1914 (Hartert and Hilgert).

In the British Museum 1 & Tunis, Staudinger and Bang-Haas.

273. Cleophana affinis sp. nov. (Pl. XV. f. 6.)

Differs from fatima at first sight by its larger size and bright rufous not yellowish grey ground-colour.

This is the insect figured by Mr. Oberthür (*Etud. Lépid. Comp.* fase, v. pt. i. ff. 596, 597, 598) as fatima Bang-Haas; but which is not that species. This mistake probably arose through Mr. Oberthür having received from Dresden some of the later specimens sent out by Bang-Haas as fatima, but if not, then it is much more easily accounted for, because the photographic figure of fatima in the **Iris** would be easily confounded with the present species.

♂♀. Head and thorax deep rufous, **not** cream-white as in *fatima*, variegated grey and dark brown edgings; abdomen wood-brown **not** yellowish grey.

Forewing rufous, **not** bluish grey washed with buff as in *fatima*; the fringe is rufous and brown, **not** dark wood-grey and buff; the postmedian line is much more deeply angled, especially at vein 5; the lunate mark in the centre of the reniform is rufous, **not** black as in *fatima*. Hindwing basal half yellowish wood-grey, **not** cream-white as in *fatima*. (Type \mathcal{P} Mecheria.)

16 specimens from Bou Saada May 1911, Guelt-es-Stel April, Bou Sedraïa N. of Djelfa May 1913, Mecheria May 1918 (V. Faroult); Aïu Sefra, May 1913 (W. R. and E. H.); Sebdou, May 1918 (P. Rotrou).

274. Cleophana chabordis Oberth.

Cleophana chabordis Oberthür, Etud. Entom. livr. i. p. 47. pl. ii. f. 2 (1876) (Bou Saada).

This in the more southern and desert regions appears to be very common. The series at Tring numbers 543 specimens. Mr. Oberthür, because the white variety named albicans Stdgr. was not figured, calls this albino aberration niveata. Although aberrations are not supposed to be subject to the law of priority, still Staudinger's name, having been given fourteen years earlier, ought, I think, to

be used. The numerous specimens intermediate between the ab. albicans and normal chabordis I propose to call ab. semialbicans ab. nov.

Our 547 examples are from El Kantara March—April 1911, Tilghemt April 1912, El Hamel May 1912, Bou Saada March—April, Djebel Kerdada May 1912, Guelt-es-Stel April 1913, Colomb-Bechar March—April 1912, Bordj Chegga March, Bir Stil March 1917 (V. Faroult); Biskra March—April 1908–1914, Mraier April 1909 (W. R. and E. H.); Laghouat, March—April 1911–1912 (W. R. and E. H., and Faroult); Aïn Sefra, May—July 1913–1915 (W. R. and E. H., and Faroult); Dehibat, Aïn Draham, and Gafsa, Tunisia (Staudinger); South Oued Mya halfway between Ouargla and Touggourt, El Alia between Touggourt and Guerrara, Guerrara, Hassi Sidi Mahmud March—April 1912, Oued Nça April 1914 (Hartert and Hilgert); Oued Amrah, April 1914 (Geyr von Schweppenburg).

Of the 547 specimens 102 are ab. semialbicans and 42 ab. albicans.

In the British Museum are 3 ♂♂, 3 ♀♀ Hammam-es-Salahin, March—April 1904, Lord Walsingham; 1 ♂ ab. albicans, Tunis.

275. Amephana aurita (Fabr.).

Noctua aurita Fabricius, Mant. Ins. vol. ii. p. 179. No. 282 (1787) (Spain).

The series at Tring from Mauretania consists of 512 examples from Moroccan Frontier S.W. of Lalla Marnia May 1914, Lalla Marnia May 1914, Berrouaghia April 1914, Bou Saada May 1914 (V. Faroult); Batna, May 1911–1915 (A. Nelva); Hammam Meskoutine April—May 1914, Tebessa and Souk Ahras, April 1914 (W. R. and K. J.); Khenchela, May—June 1911–1912 (W. R. and K. J., and Faroult); Environs d'Alger, April—May 1908 (W. R., E. H., and K. J., and Dr. Nissen); Sidi Ferruch, April 1914 (A. Théry); Les Pins, June 1918 (M. Rotrou); Hammam R'hira, May 1908–1917 (W. R. and K. J., and Faroult); Gabès, Tunisia (Staudinger); Guelt-es-Stel, April—May 1912–1913 (W. R. and K. J., and Faroult); Sebdou, Forêt de Tenira, May 1918 (P. Rotrou); El Mahouna, June 1919 (V. Faroult).

Mr. Oberthür employs for this species the name of *dejeanii* Dup., as *aurita* Fabr. is not accompanied by a figure; but *aurita* has forty years' priority over *dejeanii*.

276. Cleophana diffluens mauretaniae subsp. nov. (Pl. XV. f. 11.)

3. Differs from diffluens diffluens Stdgr. in having no shade of red-brown whatever; d. mauretaniae differs from diffluens lusitanica Culot in having the distal half of the forewings sharply divided from the basal half, the basal half being almost deep black while the distal half has the ground-colour brown-grey. In this it is much nearer d. diffluens, as d. lusitanica has the distal half of the forewings sooty, so that in many specimens there is hardly any difference of ground-colour of the whole forewing.

This is the insect Mr. Oberthür enumerates as diffluens diffluens from Tunisia. This is the first record for Algeria.

I have at Tring of this new form 25 specimens from Hammam Meskoutine, May 1914 (W. R. and K. J.); El Mahouna, May 1919 (V. Faroult).

I have compared this with Chiclana specimens of d. diffluens (Pl. XV. f. 10), and a series of 113 d. lusitanica collected by Dr. Jordan at Monchique in Portugal.

[Cleophana diffluens lusitanica Culot. (Pl. XV. f. 12.)

Cleophana diffluens form, lusitanica Culot, Noct. et Géom. d'Eur. pt. i. vol. ii. p. 107. pl. 59. f. 10 (1915) (South Portugal).

Differs from diffluens diffluens and d. mauretaniae in having the whole forewing black, the basal half only in some specimens being of a deeper black.

This form was distributed by Staudinger and Bang-Haas under the name of *lusitanica*, but I find the name was not published, so Mr. Culot's figure and description of ground-colour prove to be the first publication and he stands as the author.]

277. Cleophana versicolor Stdgr. (Pl. XV. ff. 7, 8.)

Cleophana diffluens ab. versicolor Staudinger, Cat. Lépid. Pal. Faun. pt. i. p. 214. No. 2216a (1901) (Mauretania).

Mr. Culot and Sir George Hampson have also treated this as an aberration of diffluens, while Mr. Oberthür calmly ignores it altogether. It is, however, a perfectly distinct species and occurs together with diffluens mauretaniae.

We have at Tring 30 specimens from Constantine (Staudinger); Aïn Draham September 1911, Hammam R'hira May 1917, Bou Saada March—April 1912, Guelt-es-Stel April 1913, Mecheria May 1918 (V. Faroult); Aïn Sefra, May 1913 (W. R. and E. H.); Sebdou, May 1918 (P. Rotrou).

278. Cleophana marocana Stdgr. (Pl. XV. f. 9.)

Cleophana diffluens var. marocana Staudinger, Cat. Lépid. Pal. Faun. pt. i, p. 214. No. 2216b (1901) (Morocco).

Mr. Oberthür is somewhat doubtful as to the status of this insect, but I am convinced it is a good and distinct species.

There are 12 specimens at Tring: 4 Tangier (Staudinger); 1 Rabat (A. Théry); 7 Sebdou, Morocco (A. Théry).

The British Museum has 3 33 Forest of Marmora, March 1903, Meade-Waldo.

[Omphalophana adamantina (Blach.).

Calophasia adamantina Blachier, Bull. Soc. Entom. France, 1905, p. 214 (Rabat).

I cannot understand how all the authors, except the late William Warren, who mention this species have placed it in the genus *Calophasia*. Except for its black hindwings it is almost identical with *pauli* Stdgr., in fact Mr. Meade-Waldo (*Trans. Entom. Soc. Lond.* 1905) described and figured the specimen now in the British Museum as *Cleophana pauli* Stdgr.

I have not received this species.

The British Museum has 1 \(\rightarrow \) Forest of Marmora, April 1903, Meade-Waldo.]

279. Calophasia kraussi Rebel.

Calophasia kraussi Rebel, Verh. Zool. Bot. Ges. Wien, 1895 p. 348 (Oued Nouemra, Sahara).

Mr. Culot (Noct. et Géom. d'Eur. pt. i. vol. ii. p. 101. pl. 58. f. 6) describes and figures the white aberration of kraussi as form. maozim; but already in 1913 (Novit. Zool. vol. xx. pp. 124-125) I have described two aberrations of this species, the second ab. albo-ochracea being very close to Mr. Culot's maozim.

There are therefore three described aberrations: ab. maozim Culot, almost pure white; ab. albo-ochracea Rothsch., white with buff lines; ab. brunnea Rothsch., like the typical form, but whole wings suffused and saturated with brown. I further propose to name the specimens intermediate between kraussi and ab. albo-ochracea ab. intermedia ab. nov.

The series at Tring consists of 118 examples from Colomb-Bechar March—April 1912, Bou Saada March 1912, Laghouat March 1912, Aïn Draham September 1911, Guelt-es-Stel April 1913 (V. Faroult); Tilghemt April, Ghardaïa April 1911 (W. R. and E. H.); halfway between Touggourt and Ouargla, Arefidji north of Ouargla, Hassi-el-Hadjar, halfway between Ouargla and El Golea, north of El Golea, South Oued Mya, March—May 1912 (Hartert and Hilgert).

Of these 118 specimens there are 2 ab. maozim, 3 ab. brunnea, 12 ab. alboochracea, and 27 ab. intermedia, leaving 74 typical kraussi.

The British Museum has I \bigcirc Hammann-cs-Salahin, April 1904, Lord Walsingham.

280. Calophasia platyptera (Esp.)

Noctua platyptera Esper, Schmett. vol. iv. pt. 2. p. 396. No. 138. pl. 130. f. 5. (1788) (Frankfort).

The proportion of albinistic specimens in this species is very large.

Our series at Tring numbers 26 specimens, of which 20 are albinistic = ab. subalbida Stdgr.

26 examples from Aïn Draham, August 1911 (Faroult and Staudinger); Souk Ahras, April 1914 (W. R. and K. J.); Hammam R'hira, April—May 1912–1917 (W. R. and K. J., and Faroult); Tizi Ouzou August 1914, north side of Djebel Zaccar August 1916 (Faroult); Environs d'Alger (Captain Holl).

281. Calophasia almoravida Grasl.

Calophasia almoravida Graslin, Ann. Soc. Entom. France, 1863. p. 319. pl. 8. f. 6 (Grenada).

Of this species I have 10 Algerian examples from Guelt-es-Stel April 1913, Bou Saada April 1912 (V. Faroult); Hammam Meskoutine April 1914, Khenchela May 1912 (W. R. and K. J.).

282. Calophasia stigmatica Rothseh. (Pl. XV. f. 26.)

Calophasia stigmatica Rothsehild, Novit. Zool. vol. xx. p. 125. No. 49 (1913) (halfway between Ouargla and El Golea).

So far I have only received three specimens of this rare species; Herr Püngler of Aachen has two others from Biskra.

1 ♂ South Oued Mya April, 1 ♀ halfway between Ouargla and El Golea March 1912 (Hartert and Hilgert); 1 ♀ Guelt-es-Stel, April 1913 (V. Faroult).

283. Metapistis picturata (Rothsch.). (Pl. XVI. ff. 2, 3.)

Cleophana picturata Rothschild, Entom. Zeitschr. vol. xxii. p. 142 (1909) (Mraier).

When Sir George Hampson first examined the single type specimen, he considered it belonged to the genus Harpagophana, but on my procuring three further specimens a thorough re-examination proved that this pretty little species was not a Cucullid at all, but must be placed in the Noctuinae under the genus Metapistis. Herr Bang-Haas of Dresden has received from Tunisia a fifth specimen.

4 ♀♀ from Oued Nça April 1914, Arefidji north of Ouargla March 1912 (Hartert and Hilgert); Aïn Sefra, May 1915 (V. Faroult); Mraier, April 1909 (W. R. and E. H.).

284. Rhodocleptria incarnata (Freyer).

Noctua incarnata Freyer, Neu. Beitr. Schmett. vol. iii. p. 91. pl. 256. f. 4 (1839) (Constantinople).

64 Mauretanian specimens of this species are at Tring from Environs d'Alger, May 1908 (W. R. and K. J.); Bou Saada, May 1910–1911 (V. Faroult); Souk Ahras, April 1914 (W. R. and K. J.); Guelt-es-Stel, April—May 1912–1913 (W. R. and K. J., and Faroult).

285. Xylina delphinii darollesi (Oberth.).

Chariclea darollesi Oberthür, Etud. Entom. livr. i. p. 49. pl. 4. f. 5 (1876) (El Hacaïba).

This insect appears to be rare in Algeria, as I have only received 5 specimens. 2 Bou Saada May 1911 (V. Faroult); 2 Forêt de Tenira, 1 Sebdou June 1918 (P. Rotrou).

286. Chloridea nubigera (H.-Sch.).

Heliothis nubigera Herrich-Schäffer, Syst. Bearb. Schmett. Eur. p. 366 (1845) (Asia Minor).

The Mauretanian series at Tring consists of 155 specimens from Biskra March 1908, Col de Sfa (bred) (W. R. and E. H.); Khenchela June 1911, Bou Saada May 1911, Lalla Marnia May 1914, El Kantara August 1917, Mecheria May 1918, Djebel Antar May 1918 (V. Faroult); Oued Nça April 1914, Ghardaïa May 1914, north of Aïn Guettera April 1912 (Hartert and Hilgert); Sidi-bel-Abbés, May 1916–1917 (M. Rotrou); Sebdou, July 1918 (P. Rotrou); Aïn Sefra, May 1913–1915 (W. R. and E. H., and Faroult); Saida, May 1913 (W. R. and E. H.); Environs d'Alger (Captain Holl); Guelt-es-Stel, May 1913 (V. Faroult); Oueds Amra, Dehin, Ag-elil, March 1914 (Geyr von Schweppenburg); Les Pins, Titen Yaya May—August 1915 (M. Rotrou).

The British Museum has 1 \(\text{Algeria}, Mrs. Nicholl. \)

287. Chloridea peltigera (Schiff, and Den.).

Phalaena peltigera Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 89 (1775) (Vienna).

Of this world-wide species, the series at Tring from Mauretania comprises 285 specimens from Hammam Meskoutine, May 1909–1914 (W. R., E. H., and K. J.); El Kantara, June—August 1909–1917 (Sidi Brahim and V. Faroult); Khenchela June 1911, Bou Saada May 1911, Perrégaux September 1915, Masser Mines June 1914, Lalla Marnia May 1914, Moroccan Frontier May 1914, Mecheria and Djebel Antar June 1918, Aïn Sefra May 1915, Djelfa June 1913, Aïn Draham August 1911 (V. Faroult); Titch Yaya May 1915, Sidi-bel-Abbès June—September 1917 (M. Rotrou); Biskra, March 1908 (W. R. and E. H.), Hammam R'hira, May—June 1908–1916 (W. R., E. H., and K. J., and Faroult); Mazagan, Morocco June 1901, Rio de Oro, south of Morocco August 1902 (W. Riggenbach); Gueltes-Stel, March—October 1912–1913 (W. R. and K. J., and Faroult); Environs de Taourirt, Morocco, July 1918 (M. Rotrou); El Mahouna, June 1919 (V. Faroult).

In the British Museum arc 1 ♂, 1 ♀ Algeria, Mrs. Nicholl.

288. Chloridea obsoleta (Fabr.).

Noctua obsoleta Fabricius, Entom. Syst. vol. iii. pt. i. p. 456. No. 155 (1793) (South American Islands).

I have very few Algerian specimens of this widespread species.

15 specimens from Mazagan, Morocco, July 1903 (W. Riggenbach); Sidi-bel-Abbès, June—July 1917–1918 (M. Rotrou).

289. Melicleptria scutosa (Schiff, and Den.).

Phalaena scutosa Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 89 (1775) (Vienna).

Of this very widespread insect the Mauretanian material at Tring consists of 158 examples from Bou Saada April—May 1911–1912, Djebel Kerdada May 1912, Puits Baba May 1913, Guelt-es-Stel April—October 1913 (V. Faroult); Guelt-es-Stel, April 1912 (W. R. and K. J.).

290. Chloridea dipsacea (Linn.).

Phalaena dipsacea Linnaeus, Syst. Nat. edit. xii. p. 856. No. 185 (1767) (Sweden).

This insect appears to be rare in Mauretania. I have only 9 specimens from Djebel Mekter, Aïn Sefra May 1913 (W. R. and E. H.); Batna (Nelva coll.); Khenchela, May 1912 (W. R. and K. J.); El Misab, June 1918 (P. Rotrou).

The British Museum has 1 & Forest of Marmora, Morocco, Meade-Waldo.

Erithrophaia canroberti Oberth.

Erythrophaia canroberti Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 182. pl. xdvii. f. 4130 (1919) (El Outaya).

This species must be extraordinarily rare, as only the single δQ in Mr. Oberthür's collection are known.

291. Heliothis chanzyi (Oberth.).

Anthoecia chanzyi Oberthür, Etud. Entom. livr. i. p. 51. pl. 2. ff. 4a, b. (1876) (Oued Djeddi).

I have only a single Q of this species taken by ourselves.

1 ♀ Guelt-es-Stel, April 1912 (W. R. and K. J.).

292. Xanthodes malvae (Esp.).

Noctua malvae Esper, Schmett. vol. iv. pt. 2. sect. 2. p. 63. No. 241 (1796) (Hungary).

I have only received 12 Algerian specimens of this species. 2 ♂ Environs d'Alger (Captain Holl); 1 ♂ Biskra, April 1909 (W. R. and E. H.); 2 ♂ , 1 ♀ El Kantara August 1917, 1 ♀ Perrégaux October 1915 (V. Faroult); 3 ♀ Sidi-bel-Abbès, August—September 1917 (M. Rotrou); 2 ♀ Forêt de Tenira, July 1918 (P. Rotrou).

293. Aegle vespertalis (Hübn.).

Pyralis vespertalis Hübner, Samml. Eur. Schmett. Pyr. f. 159 (1818).

Of this species there are at Tring 179 Mauretanian specimens from Guelt-es-Stel May—June 1913, Lalla Marnia May 1914, Sakamodi August 1912, Nedroma May 1914, Moroccan Frontier May 1914, Zoudj-el-Beghal July 1914, Masser

Mines May 1914, Aïn Draham August 1911, Khenchela June 1911, north side of Djebel Zaccar August 1916, El Mesrane June 1913 (V. Faroult); Sidi-bel-Abbès, June—August 1916-1918 (M. Rotrou); Hammam R'hira, May 1913 (W. R. and E. H.); Hammam Meskoutine, May 1909-1914 (W. R., E. H., and K. J.); Sebdou, Forêt de Tenira, June 1918 (P. Rotrou).

Some of these specimens have lost all the brown transverse bands of the fore- and hindwings, and look exactly like *Metaegle pallida* Stdgr., which caused me to record this latter from Guelt-es-Stel.

[Erastria trabealis trabealis (Scop.).

Phalaena trabealis Scopoli, Entom. Carn. p. 240 (1763) (Carniola).

This form is confined to the countries north of the Mediterranean Sea. Some specimens from West Algeria and Morocco approach this almost indistinguishably, but alongside of them occur the strange medley of colour varieties treated under the next subspecies.]

294. Erastria trabealis deleta (Staud.).

Agrophila deleta Staudinger, Stett. Entom. Zeit. vol. xxxviii. p. 190 (1877) (Algeria). Agrophila flavonitens Austaut, Le Nat. vol. ii. pt. xix. p. 156 (1880) (Sebdou). Emmelia sulphuralis var. algira Oberthür, Etud. Entom. livr. vi. p. 90. pl. 2. f. 2 (1881) (Bône).

I have given the full synonymy of the Mauretanian race of trabealis because there has been considerable confusion as to the status of the forms to which the three names apply. Mr. Oberthür's algira is the aberration with the black markings reduced; deleta is the form where the black is reduced to one mark only; and flavonitens is the aberration with no black on the forewings. The specimens from Morocco and West Algeria in which the black markings are practically the same as in Europe I propose to call ab. parallela ab. nov. and the aberration with all the black markings replaced by stramineous olive I call ab. olivina ab. nov.

At Tring we have 170 Mauretanian specimens, of which 12 are ab. parallela and 4 halfway between that and algira, and 18 are algira; the remaining 136 are mixed flavonitens, deleta, and olivina. The 160 are from Mazagan, Morocco, April—June 1902 (W. Riggenbach); Biskra, April 1908 (W. R. and E. H.); Sidi-bel-Abbès, May—August 1916–1917 (M. Rotrou); Masser Mines, June 1914 (V. Faroult); Sebdou, Forêt de Tenira, July 1918 (P. Rotrou); Rabat, May 1913 (A. Théry).

The British Museum has 1 & Biskra, March 1897, A. E. Eaton.

295. Tarache lucida (Hufn.).

Noctua lucida Hufnagel, Berl. Mag. vol. iii. p. 302 (1766) (Berlin).

This is a very variable species, occuring almost black = ab. lugens Alpli. and almost white = ab. insolatrix Hübn.; in between are the aberrations albicollis Fabr. and solaris Oberth., but much whiter specimens exist than ab. insolatrix, and I propose the name ab. extrema ab. nov. for the specimens with only a dark border and a few black dots in the white disc.

We have at Tring 427 Mauretanian examples from Mazagan and Cape Blanco May—October 1902, Imitanut May 1904, Truchan May 1904, Rohama April—May 1903, Seksawa April 1905, Morocco (W. Riggenbach); Oum-re-Biah, Morocco,

April 1901 (Hartert); Biskra, March—April 1908-1914 (W. R. and E. H.); El Kantara February-May 1909, Hammam Meskoutine May 1909 (W. R. and E. H.); Environs d'Alger (Dr. Nissen); Casba, Alger (Captain Holl); Khenchela May 1912, Hammam Meskoutine May 1914, Souk Ahras April 1914 (W. R. and K. J.); Environs de Batna, 1913-1914 (A. Nelva); El Kantara March—August 1911-1917, Masser Mines May 1914, Ain Draham July 1911, Perrégaux October 1915, Hammam R'hira April—June 1916-1917, Berrouaghia April 1914, Bou Saada and Djebel Kerdada May 1912, El Hamel May 1912, El Mesrane June 1913, Oued Hamidou June 1912, Terres Blanches May 1913, Guelt-es-Stel April-September 1912-1913, La Macta, Perrégaux September 1915, Lalla Marnia and Moroccan Frontier May 1914, Puits Baba May 1913, Laghouat March 1912, Mecheria May 1918, Nedroma May 1914, Msila May 1915 (V. Faroult); Sidi-bel-Abbès July-September 1916 (M. Rotrou); Belvedere, Tunis, August-September 1915 (E. Blane); Sebdou, August 1918 (P. Rotrou); Oued Nca, April 1914 (Hartert and Hilgert); Environs d'Alger, May 1911 (W. R. and E. H.); Oran, April 1913 (W. R. and E. H.); Les Pins, September, 1918 (M. Rotrou); Grottes de Tafna, Aïn-El-Berd July-September 1918 (P. Rotrou); Rabat, Morocco, June 1913 (A. Théry).

The British Museum has 1 ♂, 1 ♀ Algeria, Mrs. Nicholl; 1 ♀ Philippeville, 1 ♀ Hammam-es-Salahin March—May 1904, Lord Walsingham; 1 ♀ Tangier, 1 ♂, 1 ♀ Mogodon, Leech; 1 Biskra, April 1903, A. E. Eaton.

296. Tarache biskrensis (Oberth.).

Acontia biskrensis Oberthür, Bull. Soc. Entom. France, 1887. p. 58 (Biskra).

We found this species far from common.

The series at Tring numbers 63 from Colomb Bechar March—April 1912, Bou Saada May 1912, Djebel Kerdada May 1912, El Outaya August 1910, El Hamel May 1912, Aïn Draham September 1911 (V. Faroult); Ghardaïa, April 1911 (W. R. and E. H.); Oued Nça April 1914, Sidi Hassi Mahmud April 1914, Oued Abiod May 1912, El Alia May 1914, north of El Golea, halfway between Ouargla and El Golea, Hassi el Hadjar, South Oued Mya March—May 1912 (Hartert and Hilgert).

This species is apparently as variable as lucida.

297. Acontia luctuosa (Schiff, and Den.).

Phalaena luctuosa Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 90 (1775) (Vienna).

Of this species we have at Tring 259 Mauretanian specimens from Mazagan, Morocco June—August 1900–1903 (W. Riggenbach); Environs d'Alger, May 1908–1912 (W. R., E. H., and K. J., and Dr. Nissen); Sidi Ferruch, August 1911 (A. Théry); Batna (A. Nelva); Hammam Meskoutine, May 1914 (W. R. and K. J.); Sidi-bel-Abbès, July—August 1916–1917 (M. Rotrou); Hammam R'hira, May—June 1911–1917 (W. R. and E. H., and Faroult); Perrégaux September 1915, Zoudj el Beghal July 1914, Masser Mines May 1914, Environs de Setif 1911, Tizi Ouzou July 1914, Debrousseville September 1914, north side of Djebel Zaccar August 1916, Aïn Draham September 1911 (V. Faroult); Rabat, Morocco, June 1913 (A. Théry).

298. Lipatephia eremophila (Rebel).

Armada eremophila Rebel, Verh. Zool.-Bot. Gesell. Wien, vol. xlv. p. 350. No. 10 (1895) (Ouargla-Ghardaïa).

Armada lacroixi D. Lueas, Bull. Soc. Entom. France, p. 312 (1914) (Tunis).

This pretty species has been entirely misunderstood. Mr. William Warren in Seitz figures and describes a totally different insect, entirely ignoring Rebel's statement that the forewing of his eremophila had a general resemblance in colour and pattern to Aedia funesta (Esp.). Dr. Rebel's name has priority over Monsieur Daniel Lucas's by twenty years, but Mr. Oberthür and his friends will not agree as Dr. Rebel gives no figure.

We have at Tring 15 specimens from Ghardaïa, April 1911 (W. R. and E. H.); Aïn Sefra March 1915, Colomb Bechar March—April 1912 (V. Faroult).

There is I specimen of ours from Ghardaïa in the British Museum.

299. Nereisana oranaria (Luc.).

Chesias oranaria Lucas, Explor. Scient. d'Algérie, vol. iii. p. 392. No. 132. pl. 4. f. 4 (1848) (Oran).

This insect was considered by its author to be a Geometer, and Mr. Oberthür and others have followed him, but it is really a Noctuid and belongs to the *Erastriinae*.

I have a single pair of this rare species.

1 ♀ Souk Akras, April 1914 (W. R. and K. J.); 1 ♂ Environs d'Alger, February 1908 (W. R. and E. H.).

The British Museum has 2 ♀ Algeria, Mrs. Nicholl; 4 ♂ Hammam Meskoutine, March 1911, Meade-Waldo.

300. Hadjina viscosa (Frr.).

Mythimna viscosa Freyer, New. Beitr. vol. i. p. 39. pl. 21. f. 3 (1831) (Sicily).

Victor Faroult caught two specimens of this species during his unfortunate trip to Perrégaux, whence he had to flee for his life.

1 ♂, 1 ♀ Perrégaux, September 1915 (V. Faroult).

301. Iambiodes incerta (Rothsch.). (Pl. XVI. f. 1.)

Bryophila incerta Rothschild, Novit. Zool. vol. xx. p. 125. No. 51 (1913) (Oued Nça).

This is almost certainly the insect Mr. Oberthür enumerates under the name of Erastria fuscula gueneei Fall.

If this is so, it has been wrongly identified by Mr. Oberthür, for the insect here enumerated is certainly not *Lithacodia fasciana gueneei* (Fall.).

There are 7 specimens of this rare species at Tring from Oued Nça, April—June 1912–1914 (Hartert and Hilgert).

302. Eublemma scitula (Ramb.). (Pl. XVI. ff. 21, 22.)

Erastria scitula Rambur, Ann. Soc. Entom. France, 1833. p. 26. pl. ü. f. 16 (Corsica).

Mr. Oberthür remarks that he has no personal knowledge of this species having occurred in Algeria, but he was convinced it had been taken, and therefore included it.

I have received 35 specimens of it from Monsieur Maxime Rotrou and others. It is very strange that I never received it either from Tlemcen or Sebdou, seeing that these places produce great numbers of olive trees. The strange habits of the larva in being carnivorous and living on the Coccid (*Lecanium oleae*) are not unique, many of the tropical species of *Eublemma* feeding on *Coccidae*.

21 Sidi-bel-Abbès, August—September 1915—1918 (M. Rotrou); 1 Ras Chergui, Aïn Sefra July 1915 (V. Faroult); 9 Forêt de Tenira, September 1918 (P. Rotrou); 2 Messer, September 1917 (M. Rotrou); Sidi Ferruch, July 1911 (A. Théry).

303. Catablemma geyri (Rothsch.). (Pl. XVI. f. 23.)

Eublemma geyri Rothschild, Ann. Mag. Nat. Hist. (8). xvi. p. 252. No. 28 (1915) (Tahihout).

Of this species I only have 4 specimens.

3 \heartsuit ? Tahihout, April 1914 (Geyr von Schweppenburg); 1 \circlearrowleft Aïn Sefra, July 1915 (V. Faroult).

304. Eulocastra diaphora (Stdgr.).

Erastria diaphora Staudinger, Hor. Entom. Soc. Ross. vol. xiv. p. 415 (1878) (Kerasdere, Asia Minor),

Of this I have received 7 specimens.

2 South Oued Mya, May 1912 (Hartert and Hilgert); 1 Colomb-Bechar, March 1912 (V. Faroult); 4 Oued-Gif-Aman, Oued Tamoudat, Oued Ahmra, Ti-n-Tabarik March—April 1914 (Geyr von Schweppenburg).

The British Museum has 1 ♂, 3 ♀♀ Hammam-es-Salahin, April—May 1903–1904, Lord Walsingham.

[Phyllophila numerica (Boisd.).

Agrophila numerica Boisduval, Gen. et Ind. Meth. edit. ii. p. 175. No. 1403 (1840) (Corsica).

There have been 3 subspecies described: disjecta Warr. from Spain, not Sardinia as Mr. Oberthür states; ornatula Christ. from Turkestan; and deserti Oberth. from El Outaya, Algeria. Both Mr. Warren and Sir George Hampson make ornatula occur in Algeria, while Mr. Oberthür denies it, while erroneously applying disjecta Warr. to the large strongly marked Sardinian form. In addition to my 12 Algerian examples there are at Tring 9 European specimens, 7 from Sardinia and 2 without locality. The two latter appear to be typical numerica. As Mr. Oberthür has erroneously applied Mr. Warren's name disjecta to the Sardinian form, in spite of the fact that in Seitz Mr. Warren expressly states that his name disjecta was given to the Ab. 1 of Hampson and its habitat was Spain, in order to prevent the perpetuation of the error I propose the name numerica sardoa subsp. nov. for the Sardinian form, which differs from n. numerica in its larger size and more conspicuous pattern.

The 11 Algerian specimens consist of 1 from Sebdou, 2 from Guelt-es-Stel, 2 from Bou Saada, and 7 from Aïn Sefra. The 1 from Sebdou, 1 from Guelt-es-Stel, and 4 from Aïn Sefra agree well with Guenée's figure of the Andalusian \mathcal{P} , while the 6 others agree with "var. deserti Oberth." This proves deserti not to be a local race, but simply an aberration, and that the Algerian form is disjecta Warr.]

305. Phyllophila numerica disjecta Warr.

Phyllophila numerica ab. disjecta Warren in Seitz, Grossschmett. Erde, vol. iii. p. 274 (Spain).

3 ♀♀ Sebdou, June 1918 (P. Rotrou); 1 ♂, 1 ♀ Guelt-es-Stel, May—September 1913 (V. Faroult); 2 ♂♂, 1 ♀ Bou Saada, May 1911 (V. Faroult); 3 ♂♂, 4 ♀♀ Aīn Sefra, May—July 1913–1915 (W. R. and K. J., and Faroult).

Of these the \eth from Guelt-es-Stel, the 2 $\eth \eth$, 1 \heartsuit from Bou Saada, 1 \heartsuit from Sebdou, and 1 \eth , 2 \heartsuit from Aïn Sefra, are ab. deserti Oberth.

[Eublemma velox (Hübn.).

Noctua velox Hübner, Samml. Eur. Schmett. Noct. ff. 507, 515 (1818).

Mr. Oberthür does not mention this form, only velox velocior Stdgr.

Mr. Warren has described a \$\varphi\$ from Algeria! as griseimargo which differs in being larger and more suffused with red; I have a second still larger specimen of this form from Bou Saada. Although Mr. Warren's name was given to an aberration it will have to stand for the Algerian subspecies which differs from the type in being larger and less grey. The form velocior Stdgr. from Sicily is very distinct.]

306. Eublemma velox griseimargo (Warr.).

Leptosia griseimargo Warren, Novit. Zool. vol. xix. p. 36. No. 79 (1912) (Algeria).

My series consists of 31 specimens from Algeria: Bou Saada April—May 1911, Lalla Marnia May 1914, Perrégaux September 1915 (V. Faroult); Hammam Meskoutine, May 1914 (W. R. and K. J.); Aïn Draham, September 1911 (V. Faroult); Guelt-es-Stel, October 1913 (V. Faroult); Forêt de Tenira, Sebdou June—September 1918 (P. Rotrou); Les Pins August, Environs de Taourirt July 1918 (M. Rotrou); Rabat (A. Théry); Mazagan, September 1903 (W. Riggenbach).

[Eublemma polygramma (Dup.).

Anthophila polygramma Duponchel, Lépid. France, Suppl. III. p. 519. pl. 44. f. 3 (1836) (Digne).

I have never received this species.]

307. Eublemma permixta (Stdgr.) (Pl. XVI. ff. 1-5.)

Thalpochares permixta Staudinger. Iris, vol. x. p. 266. pl. 4. f. 7 (1897) (Chellala). Eublemna mozabitica Rothschild, Novit. Zool. vol xix. p. 126. No. 5 (1912) (Ghardaïa).

I am confident that my fellow-lepidopterists will not blame me very much for having redescribed permixta Stdgr.; for I believe nine out of ten would have done so, if they had compared my type with the sandy yellow specimens of this variable insect in the British Museum or with Staudinger's original description, where the ground-colour is given as grey-green marked with brown.

As it turns out on examination of more specimens, there are intermediate specimens between my *mozabitica* and the extreme sandy yellow form, but so far we have no example at Tring agreeing with Staudinger's original description.

I propose to call the sandy yellow form ab. arenosa ab. nov. and the intermediate form ab. intermedia ab. nov., while the specimens with violet-mauve ground-colour will stand as ab. mozabitica Rothseh.

We have at Tring 23 specimens from Ghardaïa April 1911, Aïn Sefra May 1913 (W. R. and E. H.); halfway between Ouargla and El Golea March 1912, South Oued Mya April 1912, Oued Nça April 1914 (Hartert and Hilgert); Bou Saada, March—May 1911–1912 (V. Faroult).

Of these 23 examples, 10 are ab. mozabitica, 5 ab. arenosa, 7 ab. intermedia, and 1 ab. nivescens.

The extreme white form is ab. nivescens ab. nov.

The British Museum has 1 & Hammam-es-Salahin, May 1906, Lord Walsingham (type of ab. nivescens).

308. Eublemma parva (Hübn.).

Noctua parva Hübner, Samml, Eur. Schmett. Noct. f. 356 (1808).

This species is almost as variable as *ostrina*, going from cream-colour without markings to specimens with basal half of forewing chestnut-brown and outer half almost black.

The series of Mauretanian examples at Tring comprises 177 from Mazagan, July 1900 (W. Riggenbach); Hammam R'hira, May—June 1913–1916 (W. R. and E. H., and Faroult); Sidi Ferruch, July 1911 (A. Théry); Guelt-es-Stel November 1913, Perrégaux September 1915, Lalla Marnia May 1914 (V. Faroult); Aïn Sefra, May—June 1913–1915 (W. R. and E. H., and Faroult); Sebdou, June—September 1918 (P. Rotrou); Sidi-bel-Abbès, June—October 1916–1918 (M. Rotrou); Sebdou, El Misale, June—September 1918 (P. Rotrou); Aïn Douz, Les Pins, Environs de Taourirt, July—August 1917–1918 (M. Rotrou); La Mocta, September 1915 (V. Faroult).

Of the 177 specimens 74 are from Sidi-bel-Abbès and 51 from Sebdou.

In the British Museum are 1 ♀ Hammam-es-Salahin, April 1904, Lord Walsingham; 1♀ Batna, August 1910, E. A. Eaton; 1 Tozeur, Tunisia, 1913, G. C. Champion; 1 ♂ Tangier, Leech coll.

309. Eublemma deserti (Rothsch.). (Pl. XVI. f. 26.)

Thalpochares deserti Rothschild, Entom. Zeit. Stuttgart, vol. xxiii. p. 142 (1909) (Mraier).

This very rare species at first sight looks like a minute washed-out parva, but in reality it belongs to a different section of the genus.

2 ♂♂ Mraier, April 1909 (W. R. and E. H.); 1♀ Aïn Taïba, May 1914 (Geyr von Schweppenburg).

310. Eublemma cochylioides (Guen.).

Micra cochylioides Guenée, Hist. Nat. Ins. Spec. Gén. Lépid. vol. vi. Noct. vol. ii. p. 245 (1852) (Island of Bourbon).

This beautiful little species has a very wide distribution, ranging from the Canary Islands to Australia and the Fiji Islands.

1 & Sidi-bel-Abbès, July 1916 (M. Rotrou).

This specimen is very bright, especially the yellow of the thorax and basal one-third of forewings.

311. Eublemma ostrina (Hübn.).

Noctua ostrina Hübner, Samml, Eur. Schmett, Noct. ff. 399, 648 (1808).

We find in Algeria all the forms of this extremely protean species from ab. carthami H.-S. uniform yellowish to the darkest ab. porphyrina Frr., with abs. numida Lucas, purpurata Led., aestivalis Guen., and a host of others more or less intermediate.

We have at Tring a Mauretanian series of 287 examples from Guelt-es-Stel March—May 1912–1913, Hammam R'hira May 1913–1916 (W. R., E. H., and K. J., and Faroult); north side of Djebel Zaccar August 1916, Tilghemt April 1912, Masser Mines June, Lalla Marnia May 1914, Aïn Draham May 1911, El Kantara August 1917, Mecheria and Djebel Antar May 1918, Aïn Sefra June 1915, Bou Cedraïa May 1913, Bordj-ben-Anéridj November 1911, Oued Hamidou June 1912, Bou Saada March 1912 (V. Faroult); Environs de Batna, 1913–1914 (A. Nelva); Sidi Ferruch, July 1911 (A. Théry); Sidi-bel-Abbès, Aïn Dour, June—August 1916–1917 (M. Rotrou); Sebdou, Forêt de Tenira, August 1918 (P. Rotrou); Environs d'Alger May 1912, Khenchela May 1912, Hammam Meskoutine April—May 1914, Souk Ahras April 1914 (W. R. and K. J.); Ghardaïa April 1911, Biskra 1911, Oran April 1913, Tlemcen April 1913 (W. R. and E. H.); Rabat, July 1913 (A. Théry); Environs de Taourirt, July 1918 (M. Rotrou); El Mahouna, July 1919 (V. Faroult).

The British Museum has 3 ♀♀ Algeria, Mrs. Nicholl; 1 ♀ Philippeville, 2 ♂♂, 4 ♀♀, 1 larva, Hammam-es-Salahin, April—May 1904, Lord Walsingham; 1 ♂ El Kantara, April 1913, P. A. Buxton; 1 ♂ Morocco, Stainton coll.; 6 ♂♂ Tangier, Leech coll.

312. Eublemma pseudostrina Rothsch. (Pl. XVI. f. 25.)

Eublemma pseudostrina Rothschild, Novit. Zool. vol. xxi. p. 339. No. 210 (1914) (Guelt-cs-Stel).

At first sight this might be mistaken for one of the innumerable varieties of ostrina, but the sooty-grey fringe and apex at once distinguish it.

1 ♀ Guelt-es-Stel, August 1913 (V. Faroult).

313. Eublemma subvenata (Stdgr.).

Thalpochares subvenata Staudinger, Iris, vol. v. p. 288. No. 64. pl. iii. f. 13 (1892) (Tunis).

4 Ain Sefra, July 1915 (V. Faroult).

In the British Museum is 1 ♀ El Kantara, May 1903, Lord Walsingham.

Eumegethes tenuis (Stdgr.).

Thalpochares (Eumegethes) tenuis Standinger, Iris, vol. x. p. 268. pl. iv. f. 6 (1897) (Sfax).

Mr. Oberthür states that he is doubtful what family this belongs to; this shows that because he will not acknowledge unfigured species, he also ignores all the rest of articles in which such unfigured species may be described.

In my article on the "Lepidopterous Fauna of Guelt-es-Stel" in vol. xxi. Novit. Zool. p. 341, No. 228, I expressly point out that both Mr. Prout and Mr. William Warren had examined the insect and found it to be a Geometer and not a Noctuid.

Its right position is in the subfamily Oenochrominae, and Mr. Prout places it immediately after Myinodes interpunctaria Herr.-Seh. and in front of Theoxena tenuis Meyr.

The series at Tring consists of 45 examples from Guelt-es-Stel, November 1913 (V. Faroult).]

314. Eublemma albida (Dup.).

Anthophila albida Duponchel, Lépid. France, Suppl. iv. p. 382. pl. 81. f. 1 (1842) (Marseilles).

Mr. Oberthür figures specimens of ab. gratissima Stdgr. from the Djebel Aurès, and the ab. brunnescens Culot is from Lambessa.

Among the 65 examples at Tring only typical albida and ab. albidior Culot are represented from Algeria and gratissima from Tunis.

46 Environs de Batna, June 1900–1914 (Dr. A. Seitz and A. Nelva); 6 Tunis Dannehl, 10 Sebdou El Misab, June—July 1918 (P. Rotrou); 1 Hammam R'hira, June 1916 (V. Faroult); 1 Aïn Fezza, June 1917 (M. Rotrou); El Mahouna, July 1919 (V. Faroult).

315. Eublemma grata (Guen.).

Anthophila grata Guenée, Hist. Nat. Ins. Spec. Gén. Lépid. vol. vi. Noct. ii. p. 251. No. 1048 (1852) (South Spain).

Of this species a number of forms have received names, viz. albicans Ramb.; candicans Ramb.; extranea Ramb.; extraria Ramb.; faroulti Rothsch.; and ramburi Culot. Of these all but faroulti Rothsch. = ramburi Culot are undoubtedly only aberrations. The status of faroulti is rather more complex; while it undoubtedly occurs as an aberration among the other forms of grata, the fact remains that in the Guelt-es-Stel region it forms the bulk of the specimens, but I fear this is not sufficient to give it the rank of subspecies. Therefore the aberrations are as follows:

- ab. albicans Ramb., white, pattern obsolete.
- ab. candicans Ramb., white, pattern distinct, lines narrow.
- ab. faroulti Rothsch., white, pattern heavy, lines very broad.
- ab. extranea Ramb., greyish white, pattern medium.
- ab. grata Boisd., greyer, pattern feeble.
- ab. extraria Ramb., grey-brown, pattern strong.

In the British Museum Catalogue Sir George Hampson has grata and candicans as two species, but this is natural in view of the very few specimens he had for comparison.

The series at Tring consists of 173 examples from Guelt-es-Stel May—June 1913, Bou Saada May 1911–1912, El Hamel May 1912, Zmila nr. Oran June 1913, Terres Blanches and Puits Baba May 1913 (V. Faroult); Batna, July 1910 (Dr. A. Seitz and A. Nelva); Sebdou, June 1918 (P. Rotrou); Les Pins, July 1917 (M. Rotrou).

In the British Museum are 1 & Bou Saada; 2 & Guelt-es-Stel ex Tring Museum.

Eublemma albicans (Guen.).

Anthophila albicans Guenée, Hist. Nat. Ins. Spec. Gén. Lépid. vol. vi. Noct. ii. p. 251 (1852) (Andalusia).

The confusion surrounding this species is astounding, and the examination of the literature has been worse than perfunctory. We have to thank Messrs.

Oberthür and Culot for the final solution; though even Mr. Oberthür has not got it quite right. The error arose in the first place by Boisduval, in his Genera and Index Methodicus, edit. ii. 1840, p. 164, No. 1314, giving "Albicans Ramb. Faun. Andal." Now Rambur's Faune de l'Andalousie, although evidently more complete in manuscript, was never fully published. Of the Lepidoptera, pages 213–336 of text and pl. 8–18 of figures are all that has appeared, the text running from Papilio podalirius to Sesia rhingiaeformis and the plates from Zegris to the Hesperidae among the Diurni and from Zygaena to Caradrina among the Nocturni. Thus Boisduval's Haemerosia, including albicans, was never published in that work. In 1858–1866 Rambur, however, published his Catalogue Systematique des Lépidoptères de l'Andalousie, pp. 1–412 and Plates 1–22; the text, however, was never completed and probably some plates also are wanting, as livraison iii., which was to complete the work, was never published. Page 412 ends up with Pterostoma palpina unfinished, so that there is no text to the plates 6–22, but as the figures are named, the new species stand good.

On plates 10. ff. 4, 5; 13 f. 2 and 15 f. 1 Rambur figures four aberrations, to one of which he gave the name *albicans*, of a very different *Eublemma* to the one he proposed to eall *albicans* in that part of the *Faune* never published.

Meanwhile, however, Guenée in 1852 described as albicans (see above) the specimen in Boisduval's collection which was to have been published by Rambur as albicans in the Faune; and as he gives a very good description and his type exists (see Culot, Noct. et Géom. d'Eur. pt. i. vol. ii. pl. 66, f. 15), albicans must stand for that species.

Sir George Hampson in the Catalogue has divided albicans Ramb. (nee Guen.) = grata Guen. into two species, candicans Ramb. and grata Boisd. (see vol. x. pp. 125 and 155), and placed both albicans Guen. and albicans Ramb. under grata, quite failing to grasp the truth owing to the great eonfusion due to the non-publication of the part of Rambur's Faune containing the original figure and description of Boisduval's albicans. The correct solution of this eomplicated question is that there are two species grata Guen. and albicans Guen. But albicans Ramb., candicans Ramb., extranea Ramb., and extraria Ramb. are all colour variations of grata Guen. (see antea sub. No. 314), while albicans Guen, is a distinct species.

Mr. Oberthür records 2 specimens of this species from El Outaya, but I have never received it.]

316. Eublemma virginalis (Oberth.).

Anthophila virginalis Oberthür, Etud. Entom. livr. vi. p. 90. pl. xi. f. 1 (1881) (Sebdou). Anthophila caīd Oberthür (= ab. caīd), Etud. Entom. livr. vi. p. 91. pl. xi. f. 2 (1881) (Sebdou). Eublemma subterminalis Rothschild, Novit. Zool. vol. xxi. p. 338. No. 209 (1914) (Guelt-es-Stel).

I have 82 examples, other than from Guelt-es-Stel, of this species, and that I consider too few to say anything about it, beyond that I agree with Mr. Oberthür in his recent conclusion that his *caīd* is only an aberration of *virginalis*. My *subterminalis* is a pure synonym of *virginalis*, and due to earelessness on my part.

Of ab. caīd there are 54 specimens and 28 virginalis among the 82 not from Guelt-es-Stel. All the 112 from Guelt-es-Stel are virginalis.

The Tring series totals 194: 112 Guelt-es-Stel, June—July 1913, 1 Djelfa June 1913 (V. Faroult); 5 Aïn Sefra June—July 1915, 1 Bou Saada May 1911 (V. Faroult); 15 Sebdou July—August 1918, 2 El Mizab, Forêt de Tenira (P. Rotrou); 1 Sidi-bel-Abbès July 1917 (M. Rotrou); 49 Les Pins, August 1918 (M. Rotrou); 8 Environs de Taourirt July 1918 (M. Rotrou).

317. Eublemma emir (Culot).

Thalpochares emir Culot, Noct. et Géom. d'Eur. pt. i. vol. ii. p. 153. pl. 68. f. 4 (1916) (Géryville).

Of this insect I have a very poor series, 9 Guelt-es-Stel June—July 1913 (V. Faroult).

318. Enblemma deserta (Stdgr.).

Thalpochares deserta Staudinger, Iris, vol. xii. p. 383 (1899) (Biskra).

Of this purely desert species we have at Tring 47 specimens, 2 from north of and 45 from south of In Salah.

1♀north of Aïn Guettera, 1♀S. Oued Mya, April 1912 (Hartert and Hilgert); 45 Timassinin, Oued Ag'elil, Oued Dehin, Idelès, 20 kil. N. of Idelès, Oued Tamoudat, Oued Ahmra, Aceksem, Ti-n-Tabarik, Aïn Tahart, Amgid, and Tahihout, Hoggar Mts. and Desert N. of Hoggar Mts. January—April 1914 (Geyr von Schweppenburg).

In the British Museum are 1 ♂ Biskra, Staudinger and Bang-Haas; 1 ♀ Hammam-es-Salahin, May 1903, Lord Walsingham.

319. Eublemma arida Rothsch. (Pl. XVI. f. 18.)

Eublemma arida Rothschild, Novit, Zool, vol. xx. p. 127. No. 65 (1913) (S. of El Golea).

1 & 1 ♀ S. of El Golea, May 1912 (Hartert and Hilgert).

320. Catablemma cremorna Hmpson, nom, nov.

Catablemma conistrata Hampson, part., Cat. Lepid. Phal. Brit. Mus. vol. x. p. 192. No. 5296. pl. cliv. f. 29 (1910) (Beloochistan).

δ♀. Head and thorax white; abdomen eream colour, washed with pale yellowish grey.

Forewings costal area white, rest of wings and fringe yellow-grey powdered with black scales, more densely between the nervures. Hindwings yellowish grey.

Length of forewing: largest 12 mm., smallest 9 mm.

Expanse: largest 27 mm., smallest 20 mm.

In British Museum 1 \(\precedef Tozeur, South Tunisia, 1913 (G. C. Champion) (type).

The series at Tring numbers 61 from Aïn Sefra, May 1913–1915 (W. R. and E. H., and Faroult); Hassi Sidi Mahmond, Hassi Dinar, El Alia, E. of Guerrara Oued Nça April 1914, El Meksa April, S. of El Golea, South Oned Mya May 1912 (Hartert and Hilgert); Oued Abiod, April 1912 (Hartert and Hilgert); Fontaine Chaude, April 1909 (W. R. and E. H.); Colomb-Bechar, March—April 1912 (V. Faroult).

321. Enblemma ernesti Rothsch.

Eublemma ernesti Rothschild, Novit. Zool. vol. xxii. p. 232. No. 38 (1915) (Oued Nca).

The QQ and the 1 Z I placed with this species, on closer examination prove not to belong here.

1 \Im (type) Oued Nça, April 1914 (Hartert and Hilgert) ; 1 \Im Aïn Sefra, May 1913 (W. R. and E. H.).

322. Eublemma albivestalis Hmpsn.

Eublemma olbivestalis Hampson, Cat. Lepid. Phal. Brit. Mus. vol. x. p. 191. No. 5292. pl. cliv. f. 25 (1910) (Dead Sea).

3 ♀ Oued Nça, April 1914 (Hartert and Hilgert); 2 ♂♂, 7 ♀ Les Pins, May—August 1918 (M. Rotrou); 1 ♂ Sebdou, September 1918 (P. Rotrou).

323. Eublemma wollastoni N. C. Rothseh.

Eublemma wollastoni N. C. Rothschild, Novit. Zool. vol. viii. p. 430. No. 27 (1901) (Shendi).

3 PQ Oued Nça, April 1914 (Hartert and Hilgert).

324. Eublemma lacteola Rothsch.

Eublemma lacteola Rothschild, Novit. Zool. vol. xxi. p. 339. No. 210 (1914) (Guelt-es-Stel).

15 from Guelt-es-Stel, May 1913 (V. Faroult); Aïn Sefra, May—July 1913–1915 (W. R. and E. H., and Faroult); South Oued Mya May 1912, Oued Nça April 1914 (Hartert and Hilgert); Ras Chergui, July 1915 (V. Faroult).

325. Eublemma albidior Rothsch.

Eublemma albidior Rothschild, Ann. Mag. Nat. Hist. (8) xvi. p. 253. No. 30 (1915) (Oued Ahmra).

4 Idelès, Oued Ahmra, Amgid, north of and in Hoggar Mts., March—April 1914 (Geyr von Schweppenburg); 2 Aïn Guettera May 1912, Oued Nça April 1914 (Hartert and Hilgert).

326. Eublemma pernivea sp. nov. (Pl. XVI. f. 20.)

3 ♀. Dazzling snow-white all over.

Length of forewing, 10 mm.; expanse, 22 mm.

4 & d, 1 ♀ Aïn Sefra, May—August 1913-1915 (W. R. and E. H., and V. Faroult); 1♀ Sebdou, August 1918 (P. Rotrou); 1♀ Les Pins, September 1918 (M. Rotrou). (♀ Aïn Sefra, type.)

327. Eublemma crocea sp. nov. (Pl. XVI. f. 19.)

Q. Head dark yellow; thorax and abdomen yellow-buff. Forewings saffronyellow; hindwings cream-colour.

Length of forewing, 9 mm.; expanse, 20 mm.

1 ♀ Aïn Tahart, north of Hoggar Mts., April 1914 (Geyr von Schweppenburg). I had thought this was a very bright aberration of deserta Stdgr.

328. Eublemma confusa sp. nov.

- \mathcal{J} These 17 specimens had been mixed up with and mistaken for *cremorna*. They can at once be distinguished by the strongly produced acutely pointed apex of the forewing and the dark line running in from apex. Also by the strange accentuation of the median fold.
- 3. Head white, rest of insect whitish grey. Forewings irregularly dusted with black scales, subapical area washed broadly with rusty yellow, a dark line running in obliquely from apex; central fold very deep and abnormally developed,

as is a shorter fold below, both strongly powdered with black scales. Hindwings darker grey, with pale fringe.

Length of forewing: ♂8 mm., ♀11 mm.; expanse, ♂18 mm., ♀24 mm.

4 33, 1 \circlearrowleft Oued Nça, April 1914 (Hartert and Hilgert); 1 3 Aïn Sefra, June 1915 (V. Faroult); 1 \circlearrowleft Ghardaïa, April 1911 (W. R. and E. H.).

[Eublemma lacernaria (Hübn.).

Geometra lacernaria Hübner, Samml. Eur. Schmett. Geom. f. 422 (1818).

Anthophila glarea Treitschke, Eur. Schmett. vol. v. pt. 3. p. 282. No. 6 (1826) (Dalmatia).

I have never received this species.]

[Eublemma suava (Hübn.).

Noctua suava Hübner, Samml. Eur. Schmett. Noct. f. 578 (1818).

Mř. Oberthür places Rambur's blandula β pergrata φ as a form of suava, and says this is the Algerian race. Mr. Culot places Rambur's insect as a race of arcuina, although acknowledging it to be nearer suava.

I have 1 \(\text{? from Sidi Ferruch which is red like the 33} \), but my other 6 \(\text{\$\text{\$\text{\$\sigma}\$}} \) and all sooty slate-grey. There is, however, an apparently constant difference from European suava in that the black basal portion of the postmedian band is much broader, therefore I shall place the Algerian race for the present under Rambur's name, until it is possible to compare a good series from Spain with Algerian material.]

329. Eublemma suava blandula (Ramb.).

Noctua blandula Rambur, Cat. Syst. Lépid. de l'And. pl. x. f. 2 (1858) (Andalusia).

Sir George Hampson has put blandula as a synonym of arcuina; this is at once disproved by the non angulate postmedian band.

We have 9 33, 11 \$\pi\$ from Mauretania: Mazagan, Morocco, September 1902 (W. Riggenbach); Sidi Ferruch, July 1911, Rabat (A. Théry); Masser Mines June 1914, Aïn Draham July 1911, Perrégaux September 1915, Blida November 1915 (V. Faroult); Hammam Meskoutine, May 1914 (W. R. and E. H.); Sebdou, Forêt de Tenira, June—September 1918 (P. Rotrou); El Mahouna, September 1919 (V. Faroult).

330. Eublemma syrtensis Hmpsn.

Eublemma syrtensis Hampson, Cat. Lepid. Phal. Brit. Mus. vol. x. p. 112. No. 5137. pl. cli. f. 28 (1910) (Hammam-es-Salahin).

The type in the British Museum has hitherto been unique; 1 ♀ Hammames-Salahin (Lord Walsingham).

The small series at Tring shows no variation. 7 33 Environs de Batna, 1913–1914 (A. Nelva).

331. Eublemma jucunda (Hübn.).

Noctua jucunda Hübner, Samml. Eur. Schmett. Noct. ff. 486, 492 (1818).

Our series from Mauretania of this contains 43 specimens from Sidi-bel-Abbès, July—October 1916–1917 (M. Rotrou); Masser Mines June 1914, Aïn Sefra June 1915, Guelt-es-Stel August 1913 (V. Faroult); Sebdou, Forêt de Tenira, August—September 1918 (P. Rotrou).

332. Eublemma purpurina (Schiff. & Den.).

Phalaena purpurina Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 88 (1775) (Vienna).

I have 9 Mauretanian specimens: 2 33 Ain Draham, September 1911 (V. Faroult); 1 2 Khenchela, May 1912 (W. R. and K. J.); 2 33, 4 \$\text{QP}\$ El Mahouna, June 1919 (V. Faroult).

The 2 Aïn Draham 33 are ab. secunda Stdgr. with the mauve-lilac colouring reduced to a patch at the apex of forewing.

333. Eublemma candidana (Fabr.).

Pyralis candidana Fabricius, Entom. Syst. vol. iii. pt. ii. p. 245. No. 11 (1794) (Montpellier).

1 ♀ Sidi Ferruch, July 1911 (A. Théry).

334. Azenia sabulosa (Rothsch.).

Eublemma sabulosa Rothschild, Novit. Zool. vol. xx. p. 127. No. 64 (1913) (South Oued Mya).

The type and a second Q so far are all that have been recorded.

 $1 \supseteq \text{South Oued Mya, May 1912 (Hartert and Hilgert)}; 1 \supseteq \text{Amgid, February 1914 (Geyr von Schweppenburg)}.$

335. Synthymia fixa australis (Oberth.).

Metoptria monogramma australis Oberthür, Etud. Lépid. Comp. fasc. xvi. p. 199. pl. xdvii. f. 4137 (1919) (Géryville).

I have a very poor series of this handsome species.

5 &\$\frac{1}{2}\$, 5 \$\pi\$\$ from Sidi-bel-Abbès, June 1917 (M. Rotrou); Masser Mines, Moroccan Frontier May 1914, Oued Hamidou June 1912 (V. Faroult); Forêt de Tenira, June 1918 (P. Rotrou).

336. Eriopus latreillei (Dup.).

Noctua latreillei Duponchel, Lépid. France, vol. vii. Noct. vol. iv. pt. 1. p. 327. pl. 120. f. 2 (1827) (Provence).

Our Mauretanian series is very scanty: 13 specimens from Guelt-es-Stel October 1913, Aîn Sefra July 1915, Masser Mines June 1914, Bou Saada March—May 1912, Metlili north of Laghouat September 1917, Aîn Draham September 1911 (V. Faroult); Sebdou, July 1918 (P. Rotrou).

337. Eriopus juventina (Cram.).

Phalaena juventina Cramer, Pap. Exot. vol. iv. pt. xxxiv. p. 245. pl. cccc. f. N. (1782) (Surinam !!),

Of this elegant species I have only 6 examples, 5 from Tunisia. I believe this is the first record for Mauretania.

All 6 specimens (4 $\Im\Im$, 2 \Im) are very pale, and the ground-colour somewhat rufous, but as they are rather worn, it is not possible to say if the North African examples belong to a separate subspecies.

3 ♂♂, 2 ♀♀ Aïn Draham, Tunisia. September 1911, 1 ♂ Oued Hamidou, June 1912 (V. Faroult).

338. Phlogophora adulatrix (Hübn.).

Noctua adulatrix Hübner, Samml. Europ. Schmett. Noct. ff. 517, 649, 650 (1818).

Of this conspicuous insect the series at Tring from Mauretania consists of 161 specimens from Hammam R'hira, May 1908–1911 (W. R., E. H., and K. J., and Faroult); Environs d'Alger, May 1908 (W. R., K. J., and Dr. Nissen); Biskra, March 1908 (W. R. and E. H.); Hammam Meskoutine, May 1914 (W. R., E. H., and K. J.); Sidi-bel-Abbès, August-September 1917 (M. Rotrou); Aïn Draham September 1911, Environs de Setif 1911, El Kantara August 1917, Oued Hamidou June 1912, El Hamel May 1912, Bou Saada and Djebel Kerdada May 1912, Masser Mines June 1914 (V. Faroult); Guelt-es-Stel, May—October 1912–1913 (V. Faroult); Sebdou, Forêt de Tenira, May—June 1918 (P. Rotrou).

The British Museum has 1 $\$ Hammam-es-Salahin, April 1904, Lord Walsingham.

339. Phytometra orichalcea (Fabr.).

Noctua orichalcea Fabricius, Syst. Entom. p. 607. No. 70 (1775) (India). Noctua aurifera Hübner, Samml. Eur. Schmett. Noct. f. 463 (1822).

Mr. Oberthür adopts Hübner's name for this species, as he figures it, but even under his system in regard to figures he ought to have adopted Martyn's name of chrysitina of twenty-five years' earlier date, as he gives a good figure in Psyche; perhaps however Mr. Oberthür, like many other people, adopts the very legitimate doubt as to Martyn's Psyche having been properly published.

We have 34 Mauretanian specimens at Tring from Mazagan, Morocco, July 1900 (W. Riggenbach); Sidi-bel-Abbès, July—August 1916-1917 (M. Rotrou); Oran, April 1913 (W. R. and E. H.); Environs de Setif, 1911 (V. Faroult); Environs d'Alger (Dr. Nissen).

Mr. Oberthür appears to have only one record of this species from Batna.

340. Phytometra chalcytes (Esp.).

Noctua chalcytes Esper., Schmett. vol. iv. pt. ii. p. 447. No. 167. pl. cxli. f. 3 (1789) (Italy).

Here also Mr. Oberthür only seems to have one record, Lambessa.

The Mauretanian series at Triug consists of 72 examples from Sidi-bel-Abbès, Messer, June—September 1916–1917 (M. Rotrou); Hammam R'hira September 1916, Le Tlélat October 1915, Batna October 1910 (V. Faroult); Environs d'Alger (Dr. Nissen); Mazagan, Morocco, July 1900 (W. Riggenbach).

341. Phytometra daubei (Boisd.).

Plusia daubei Boisduval, Gen. et Ind. Meth. p. 159. No. 1281 (1840) (S. France).

The Mauretanian examples at Tring number 13 from Biskra, March—April 1908–1911 (W. R. and E. H.); Sidi-bel-Abbès, September 1917 (M. Rotrou); Bordj-ben-Auéridj November 1911, Bou Saada March 1912, Lalla Marnia November 1914, El Kantara, September 1917 (V. Faroult).

342. Phytometra accentifera (Lef.).

Plusia accentifera Lefebre, Ann. Soc. Linn. Paris. 1827. p. 94. pl. 5. ff. 1, 2.

Of this species I have 4 Algerian specimens: 1 Batna (A. Nelva); 3 Sidibel-Abbès, September 1916–1917 (M. Rotrou).

Mr. Oberthür has no record of this species.

343. Phytometra intermixta Warr.

Phytometra intermixta Warren in Seitz, Grossschmett. Erde, vol. iii. p. 357. pl. 64g. (1913) (Pu-Tsu-Fu, W. China).

This species has always been mixed up with *orichalcea*. 3 Mazagan, Morocco, July 1900 (W. Riggenbach).

344. Phytometra ni (Hübn.).

Noctua ni Hübner, Samml. Eur. Schmett. Noct. f. 284 (1802).

Of this species we have 149 Mauretanian specimens at Tring.

I had at one time decided that there were two forms of this species in Algeria, the typical form on the coast and in the Tell and a paler desert form elsewhere, but I find light and dark specimens from the same locality now that I have a good series.

The 149 examples are from Sebdou, June 1918 (P. Rotrou); Les Pins, Environs de Taourirt, July 1918 (M. Rotrou); Blida November 1915, Aflou October 1916 (V. Faroult); Amgid, Aïn Tahart, Oued Amra February-March 1914 (Geyr von Schweppenburg); Biskra, March—April 1908-1909 (W. R. and E. H.); Mazagan, Morocco, July 1900 (W. Riggenbach); Environs d'Alger (Captain Holl); Hammam R'hira May 1908-1916 (W. R., E. H., and K. J., and Faroult); Ain Sefra, May-July 1913-1915 (W. R. and E. H., and Faroult); Colomb-Bechar March—April 1912, Perrégaux September 1915, Oudida May 1914, Lalla Marnia April 1914, Djebel Kerdada and Bou Saada May 1912, Bir Stil March 1917, El Kantara August 1917, Oued Hamidou June 1912, El Hamel May 1912, north side of Djebel Zaccar Miliana August 1916 (V. Faroult); Sidi-bel-Abbès, May—September 1915-1917 (M. Rotrou); Oran, April 1913 (W. R. and E. H.); Guelt-es-Stel, April—May 1912-1913 (W. R. and K. J., and Faroult); Oued Nça April 1914, El Golea March 1912 (Hartert and Hilgert); Batna (A. Nelva); Hammam Meskoutine, May 1914 (W. R. and K. J.); Belvedère, Tunis, August—September 1915 (M. Blane); Ain Draham, September 1911 (V. Faroult).

345. Phytometra gamma (Linn.).

Phalaena gamma Linuaeus, Syst. Nat. edit. x. p. 513. No. 91 (1758) (Sweden).

This almost world-wide species is just as abundant in Algeria as elsewhere. I have not kept nearly all that have come to hand between the years 1908 and 1919, during which I have been amassing Algerian material.

The series retained at Tring from Mauretania consists of 268 examples from Mazagan, Morocco, January—July 1901–1903 (W. Riggenbach); Blida les Glacières, June 1908 (W. R. and K. J.); Biskra January—May 1908–1914, Tlemcen April 1913, Oran April 1913 (W. R. and E. H.); Environs de Batna, 1909–1912 (A. Nelva); Lambessa, July 1914 (A. Nelva); Environs d'Alger, May 1911 (W. R. and E. H.); Hammam R'hira, February—May 1908–1918 (W. R., E. H., and K. J., and Faroult); Sidi-bel-Abbès, Ain Fezza, Les Pins, July—September 1916–1918 (M. Rotrou); Khenehela May 1912, Souk Ahras April 1914, Hammam Meskoutine May 1914 (W. R. and K. J.); Guelt-es-Stel, April—October 1912–1913 (W. R. and K. J., and Faroult); Perrégaux October 1915,

Oued Hamidou June 1912, Bordj-ben-Anéridj November 1911, Lalla Marnia April—May 1914, Blida February 1916, Nedroma May 1914, Masser Mines May 1914, Mecheria June 1918, Aïn Draham August—September 1911, Bou Saada March—May 1911–1912, Tilghemt April 1912, Boghar May 1912 (V. Faroult); Sebdou, May 1918 (P. Rotrou); Slassel Danoun, December 1913 (Geyr von Schweppenburg).

In British Museum are 1 ♂ Hammam-es-Salahin April 1904, 1 ♂ Tkout, April 1906, Lord Walsingham; 1 ♂, 1♀ Hammam Meskoutine, April 1913, P. A. Buxton; 1 ♂ Tangier, Leech coll.

[Protomeceras mimicaria (Oberth.).

Cimelia mimicaria Oberthür, Bull. Soc. Entom. France, 1887. p. 58 (Sebdou).

In spite of the continued doubts evinced by Mr. Oberthür as to the exact classificatory position of this very remarkable insect, I think there can be no doubt that its correct position is next to *Synthimia* and in front of *Megalodes* towards the end of the subfamily *Zenobiinae* (*Acronyctinae*).

I have never received this insect.]

346. Scoliopteryx libatrix (Linn.).

Phalaena libatrix Linnaeus, Syst. Nat. edit. x. p. 507. No. 54 (1758) (Sweden).

I have only had three Mauretanian examples : 1 \circlearrowleft , 1 \circlearrowleft Sidi-bel-Abbès, September 1917 (M. Rotrou); 1 \circlearrowleft El Mahouna, June 1919 (V. Faroult).

347. Amphipyra pyramidea (Linn.).

Phalaena pyramidea Linnaeus, Syst. Nat. edit. x. p. 518. No. 119 (1758).

I have just one dozen Mauretanian examples: from Blida les Glacières June 1908 (W. R. and K. J.); Batna (A. Nelva); Aïn Draham September 1911, Hammam R'hira July 1917 (V. Faroult); Sidi-bel-Abbès, July—August 1917 (M. Rotrou).

These all belong to the large and fine form ab. vuriegata Warr.; if this form is proved to be constant in Algeria and Tunis it would have to stand as a distinct subspecies—

Amphipyra pyramidea variegata Warr.

Amphipyra pyramidea ab. variegata Warren in Seitz, Grossschmett. Erde, vol. iii. p. 158. pl. 386-(1911) (Algeria).

348. Pyrois effusa (Boisd.).

Amphipyra effusa Boisduval, Eur. Lépid. Ind. Meth. p. 68 (1829) (Sicily).

This insect is widely distributed in Algeria, being found far into the interior and also along the coast, though at Tring we have only examples from the Tell regions.

24 specimens from Hammam R'hira, May—June 1911-1916 (W. R. and E. H., and Faroult); Blida les Glacières, June 1908 (W. R. and K. J.); Hammam Meskoutine, May 1909-1914 (W. R., E. H., and K. J.); El Mahouna, June 1919 (V. Faroult).

349. Amphipyra tetra (Fabr.).

Noctua tetra Fabricius, Mant. Ins. vol. ii. p. 138. No. 31 (1787) (Austria).

Of this species the Tring Museum possesses a very poor Mauretanian series: 7 specimens from Guelt-es-Stel October 1913, Aïn Sefra July 1915 (V. Faroult).

350. Amphipyra tragopoginis distincta subsp. nov.

 \bigcirc . This insect is a very distinct subspecies of tragopoginis Linn., being larger and more brightly coloured.

Head and thorax deep black-brown; abdomen smoky wood-brown; palpi and antennae black. Forewings basal three-fourths deep black-brown, powdered with dark grey, orbicular represented by a black spot or streak and reniform by two black spots; outer one-fourth sooty blackish grey. Hindwings rusty wood-brown washed with sooty grey.

Length of forewing, 20 mm; expanse, 47 mm.

1 ♀ north side of Djebel Zaccar, nr. Miliana August 1916, 1 ♀ Hammam R'hira May 1917 (V. Faroult).

Mr. Oberthür does not record tragopoginis.

351. Mania maura (Linn.).

Phalaena maura Linnaeus, Syst. Nat. edit. x. p. 512. No. 88 (1758) (Mauretania).

The series from Mauretania at Tring consists of 82 specimens from Batna (A. Nelva); Guelt-es-Stel August 1913, north side of Djebel Zaccar, nr. Miliana August 1916, Aïn Draham July 1911 (V. Faroult); Hammam R'hira, May—June 1913—1916 (W. R. and E. H., and Faroult); Sebdou, Forêt de Tenira, September 1918 (P. Rotrou); Sidi-bel-Abbès, July 1917 (M. Rotrou); Lambessa 1912 (A. Nelva).

352. Apopestes spectrum maura Warr,

Apopestes spectrum maura Warren in Seitz, Grossschmett. Erde, p. 370. pl. 68b. (1913) (Algeria).

The name maura could not be used for this insect before the genus was split in two, as it is antedated twenty-five years by Staudinger's maura, a species near cataphanes, described by its author as a subspecies of cataphanes, but is quite in order now.

This is not a very distinct subspecies of *spectrum*, but it appears fairly constant, the lines being less diffuse and narrower.

The Tring series comprises 64 specimens from Batna (A. Nelva); El Kantara, March 1908–1911 (W. R. and E. H.); Mazagan, Morocco, July 1901 (W. Riggenbach); Lella Kredidja, Tala Rana, Kabylie, July 1907–1908 (Dr. Nissen); Forêt de Tenira, Sebdou, September 1918 (P. Rotrou); Sidi-bel-Abbès July 1917, Les Pins August 1918 (M. Rotrou); Guelt-es-Stel, April—October 1912–1913 (W. R. and K. J., and Faroult); Perrégaux October 1915, Aflou October 1916 (V. Faroult); Aïn Sefra, May—June 1913–1915 (W. R. and E. H., and Faroult); Bordj-ben-Anéridj October 1912, Medjes October 1912, north side of Djebel Zaccar, nr. Miliana August 1916 (V. Faroult).

353. Autophila maura (Stdgr.).

Spintherops cataphanes var. maura, Staudinger, Stett. Entom. Zeit. vol. 49. p. 63 (1888) (Lambessa). Spintherops roseata Rothschild, Novit. Zool. vol. xix. p. 126. No. 6 (1912) (Ghardaïa).

One would not look generally for the description of an Algerian moth in an article dealing with Asiatic species, so I unfortunately redescribed the present species.

Mr. Oberthür as well as Staudinger and most other authors have placed this insect under *cataphanes* Hübn, as a race or variety, but Sir George Hampson is convinced that it and several other forms placed under *cataphanes* are distinct species.

The scries at Tring numbers 78 specimens from Biskra, March—April 1908–1909 (W. R. and E. H.); Guelt-es-Stel July—October 1913, Aïn Sefra May 1915, Ras Chergui July 1915, Colomb Bechar March—April 1912, Msila May 1915, Bordj Chegga March 1917, Tilghemt April 1912, Laghouat March 1912, Bou Saada April—May 1911–1912 (V. Faroult); El Kantara March—August 1911–1917 (V. Faroult); El Kantara March—August 1911–1917 (W. R. and E. H., and Faroult); Sebdou, June—July 1918 (P. Rotrou); Oued Abbou, January 1914 (Geyr von Schweppenburg); Ghardaïa, April 1911 (W. R. and E. H.) (including type of roseata); north of Aïn Guettera, Aïn Guettera, South Oued Mya, In-Salah Tidikelt Oases, Fort Miribel, north of El Golea April—May 1912, Oued Nça April 1914 (Hartert and Hilgert).

The British Museum has 1♀ Algeria, Mrs. Nicholl; 2 ♂♂, 7 ♀♀ Hammames-Salahin, March—May 1903–1904, Lord Walsingham.

354. Autophila ligaminosa (Eversm.).

Spintherops ligaminosa Eversmann, Bull. Soc. Imp. Nat. Mosc. 1851. p. 630 (Georgia and Armenia).

This was taken by Mr. Oberthür to be typical cataphanes. Sir George Hampson considers it a distinct species.

6 ♂♂, 9 ♀♀ Sebdou, August 1918 (P. Rotrou) ; 1 ♀ Environs de Batna (Nelva) ; 1 ♀ Sidi-bel-Abbès, June 1916 (M. Rotrou) ; 1 ♂ Hammam R'hira, February 1918.

Mr. Oberthür does not record this species, having in error put it down as cataphanes.

355. Autophila dilucida libanotica (Stdgr.).

Apopestes dilucida v. ? libanotica Staudinger, Cat. Lepid. Palaear, Faun. edit. iii. p. 251. No. 2723e (1901) (Lebanon).

Staudinger, Mr. Oberthür, and most other entomologists have identified this insect as dilucida dilucida Hübn., but I consider it agrees best with the subspecies libanotica Stdgr.

In the Stett. Entom. Zeit. vol. xlix. p. 63 (1888) (Biskra) Dr. Staudinger separated a more rosy red Autophila as Spintherops dilucida var. rosea, and hitherto everyone has followed him without carefully examining a series of this very common insect. I was first struck by the longer and narrower wings of rosea, and then I found that I had both rosea and dilucida libanotica from Guelt-es-Stel and no specimens showing any intermediate characters.

I at once got Dr. Jordan to examine the 3 genital armature, and we found that this differed in the two insects. I then looked up my non-Mauretanian.

material and perceived at once that there was a much greater resemblance between rosea Stdgr. and cerealis Stdgr. than between rosea and the forms of dilucida. Dr. Jordan on examining the genital armature of cerealis found that it really agreed with that of rosea. Therefore rosea is a subspecies of cerealis and not of dilucida, and must stand as Autophila cerealis rosea Stdgr.

We have at Tring 102 Algerian examples of dilucida libanotica Stdgr. from El Kantara, March—April 1908–1911 (W. R. and E. H., and Faroult); Batna, June 1909–1914 (A. Nelva); Guelt-es-Stel, May—June 1913 (V. Faroult); Djebel Chelia, June 1911 (V. Faroult); Environs d'Alger (Captain Holl); Sidibel-Abbès, June 1915–1917 (M. Rotrou); Bou Saada May 1912, Oued Hamidou June 1912 (V. Faroult); Hammam R'hira, May—June 1913–1917 (W. R. and E. H., and Faroult); Masser Mines, June 1914 (V. Faroult).

The British Museum has 1 & Algeria, Mrs. Nicholl.

356. Autophila cerealis rosea (Stdgr.).

Spintherops dilucida var. rosea Staudinger, Stett. Entom. Zeit. vol. 49. p. 63 (1888) (Biskra).

As the genital armature of the \eth of this insect differs from that of *dilucida* and agrees with that of *cerealis* Stdgr., it proves *rosea* to be a distinct species from *dilucida* and that it is a subspecies of *cerealis*.

We have at Tring 333 specimens of this species from Biskra, March 1908 (W. R. and E. H.); Gafsa and Biskra (Staudinger); El Hamel May 1912, Mograr Foukani November 1916, Guelt-es-Stel May 1913, Bou Saada May 1912, Laghouat March 1912, Tilghemt April 1912 (V. Faroult); Oued Nça April 1914, South Oued Mya, north of Aïn Guettera, El Golea, April—May 1912 (Hartert and Hilgert); Oued Abbou January 1914, south of Ouargla December 1913 (Geyr von Schweppenburg); Aïn Sefra, May 1913—1915 (W. R. and E. H., and Faroult).

The British Museum has 1 ♂ Mauretania, Staudinger and Bang-Haas; 1 ♀ Biskra, February 1894, A. E. Eaton; 2 ♀♀ Hammam-es-Salahin, February 1894, Lord Walsingham; 1 ♂ Hammam Meskoutine, March 1911, Meade-Waldo; 1 ♂ Sbietla, Tunisia 1913, G. C. Champion.

357. Tathorhynchus exsiccata (Led.).

Spintherops exsiccata Lederer, Verh. Zool. Bot. Ver. Wien, vol. v. p. 204. pl. 2. f. 12 (1855) (Beirut).

This species is by no means numerous in Algeria.

I have only received 15: 5 Guelt-es-Stel, April—May 1912–1913 (W. R. and E. H., and Faroult); 3 Aïn Sefra July 1915, 1 Bou Saada May 1912 (V. Faroult); 3 Sidi-bel-Abbès, June 1917 (M. Rotrou); 2 Amgid February, 1 Oued Ag'elil March 1914 (Geyr von Schweppenburg).

358. Anthracia ephialtes (Hübn.).

Noctua ephialtes Hübner, Samml. Eur. Schmmett. Noct. f. 652 (1822).

Of this species I have only 8 specimens from Algeria.

7 $\mbox{\ensuremath{\not\sim}}\mbox{\ensuremath{\nearrow}}\mbox{\ensuremath{\nearrow}}\mbox{\ensuremath{\nearrow}$

The British Museum has 1 ♂, 1 ♀ Moroeco, Meade-Waldo.

359. Pandesma anysa distincta subsp. nov.

3. Differ from anysa anysa in being smaller, less stoutly built, and more uniform deep grey in colour.

Length of forewing: 3 a. anysa 22 mm., a. distincta 15 mm.

Length of forewing: Q a. anysa 24 mm., a. distincta 18 mm.

Expanse: a. anysa $\stackrel{?}{\circ}$ 51 mm., $\stackrel{?}{\circ}$ 55 mm.; a. distincta $\stackrel{?}{\circ}$ 36 mm., $\stackrel{?}{\circ}$ 42 mm.

1 3, 1 \circlearrowleft Sidi-bel-Abbès, September 1917 (M. Rotrou); 1 \hookrightarrow Belvedère, Tunis (M. Blane); 2 33 Aïn Sefra, July 1915 (V. Faroult).

Mr. Oberthür pointed out the difference from anysa anysa, but did not name the form, though he figures it.

360. Pandesma anysa sennaarensis Feld. & Rog.

Pandesma sennaarensis Felder and Rogenhofer, Reise der Novara, Zoology, vol. ii. sect. 2. pl. cxi. and Tafel-Erkl. f. 26 (1872) (Cape Colony and Sennaar).

This form occurs in the interior of the Sahara; the 33 are much whiter and the 99 paler and less pure grey.

4 ♂♂, 5 ♀♀ Amgid, Oued Ag'elil, I-n-Kelemet, Oued Amra, February—March 1914 (Geyr von Şehweppenburg). I identified this in 1915 as a. terregena Christ., but it agrees best with Felder's form.

Mr. Oberthür does not record this.

361. Cortyta acrosticta (Püngl.).

Pericyma acrosticta Püngler, Iris, vol. xvi. p. 290. pl. vi. f. 6 (1903) (Engeddi, Dead Sea).

This is quite distinct from *vetusta*, under which Sir George Hampson has placed it as an aberration.

1 & Ti-n-tabarik, April 1914 (Geyr von Schweppenburg). This is also not recorded by Mr. Oberthür.

362. Cortyta rosacea (Rebel). (Pl. XVI. f. 17.)

Pericyma rosacea Rebel, Denkschr. Math.-Nat. Akad. Wissensch. vol. lxxi. p. 60 (1907) (Soeotra).

I have a fine series of this very rare insect from the Algerian Sahara; it does not vary except in size.

1 & South Oued Mya, April 1912 (Hartert and Hilgert); 19 & 6, 6 약 Oued Dehin, Amgid, Rharis, Aeeksem, Oued Gif-Aman, Oued Tamoudat, Oued Ag'elil, north of Idelès, February—April 1914 (Geyr von Schweppenburg).

Mr. Oberthür does not record this.

363. Cortyta leucoptera (Hmpsn.).

Hypaetra leucoptera Hampson, Proc. Zool. Soc. Lond. 1896, p. 264, pl. x. f. 1 (Aden). Pericyma dispar Püngler, Iris, vol. xvi. p. 290, pl. v. ff. 7, 7a (1993) (Engeddi, Dead Sea).

Pericyma fasciolata Warren, Novit. Zool. vol. xii. p. 24. pl. iv. ff. 11, 21 (1905) (Nakheila, Egypt. Sudan).

Polydesna balnearia Distant, Ann. Mag. Nat. Hist. (7) I. p. 228 (1898) (Waterburg, Transvaal).
Cortyta impar Hampson, Cat. Lepid, Phal. Brit. Mus. vol. xiii. p. 317. No. 8129. pl. cexxxii. f. 21 (1913) (Punjab).

Homoptera eremochroa Hampson, Journ. Bomb. Nat. Hist. Soc. vol. xxi. p. 1222 (1912) (Deesa, Bombay).

In the British Museum Catalogue of Moths Sir George Hampson has all the above 6 insects as separate species, but since the publication of vol. xiii. of the

above Catalogue, two very remarkable series of specimens have come to hand, first a series of 18 specimens from the Algerian Sahara sent me by Herr Geyr von Schweppenburg in 1914, and secondly a very large series received by Professor Poulton from Mr. Feather collected in Somaliland. In these two series every intergradation between the 6 insects named above is represented, proving them all to belong to a single protean species with an extraordinary range of variation. Unfortunately leucoptera Hampson, as the oldest name, has to be used for the species, for the very white form to which it was originally given appears to be the rarest; in my series of 21 Algerian specimens, only the 3 from Colomb-Bechar is of this form.

1 ♂ Colomb-Beehar, Mareh—April 1912 (V. Faroult); 5 ♂♂, 13 ♀♀ Amgid, Oued Dehir, Oued Gif-Aman, Oued Tamoudat, Oued Amra, Rharis, Aïn Tahart, February—April 1914 (Geyr von Schweppenburg); 2 ♀♀ South Oued Mya, and north of Aïn Guettera, April 1912 (Hartert and Hilgert).

The last two are type and eotype of fasciolata subsimilis Warren, but are only further aberrations of leucoptera, as is my Cortyta pungleri.

This is also not recorded by Mr. Oberthür.

364. Hypoglaucitis benenotata moses Stdgr.

Hypoglaucitis moses Staudinger, Iris, vol. vii. p. 284. pl. 9. f. 17 (1894) (Egypt [Cairo?]).

Of the 6 \circlearrowleft \circlearrowleft 6 \hookleftarrow from Algeria at Tring, 2 \circlearrowleft are typical moses, 1 \circlearrowleft is too worn to be sure of, and 3 \circlearrowleft are ab. ochrea Warr. Of the 6 \hookleftarrow \hookleftarrow 5 are ab. ochrea and 1 typical moses. 4 \circlearrowleft 3 \hookleftarrow South Oued Mya, April 1912 (Hartert and Hilgert); Laghouat March 1912, Nedroma and Lalla Marnia May 1914 (V. Faroult); 1 \hookleftarrow Aceksem, 1 \hookleftarrow Tahihout, April—May 1914 (Geyr von Schweppenburg).

Not recorded by Mr. Oberthür.

365. Mageutica alchymista alchymista (Schiff. & Den.).

Phalaena alchymista Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 89 (1775) (Vienna).

Of typical alchymista I only have 3 specimens: 1 Hammam R'hira, June 1917 (V. Faroult); 2 Batna (A. Nelva).

Of ab. varia I have 1 \, from Batna (A. Nelva).

The British Museum has 1 ♂, 1 ♀ Batna, Staudinger and Bang-Haas.

366. Mageutiea alchymista uniformis (B.-H.).

Catephia alchymista var. uniformis Bang-Haas, Iris, vol. xxiv. p. 41 (1910) (Aîn Draham).

This form is not found in Europe, and in Eastern Algeria and Tunisia at least 95 per cent. of the individuals belong to it, so I consider it a good subspecies. (I have placed the form varia as an aberration under a. alchymista, but I am doubtful as to its status. Mr. Oberthür says it is the prevailing form at Lambessa, but I have only 3 Batna examples, 2 being typical alchymista and 1 varia. My material is useless for decision, being so poor in numbers.)

Of a. uniformis we have at Tring 67 specimens from Ain Draham July—August 1911, Environs de Setif 1911 (V. Faroult).

Of these 67 examples 4 are intermediate between uniformis and alchymista.

367. Catephia leucomelas (Linn.).

Phalaena leucomelus Linnaeus, Syst. Nat. edit. x. p. 518. No. 121 (1758) (Europe).

Mr. Oberthür makes use of Rambur's name, which is 71 years later than Linnaeus's, although the latter's leucomelas is figured in Clerck's Icones.

We have 7 Mauretanian examples: 4 Environs d'Alger, May—June 1908 (W. R. and K. J., and Dr. Nissen); 3 Hammam R'hira, July 1917 (V. Faroult).

368. Anumeta atrosignata harterti Rothsch.

Anumeta henkei harterti Rothschild, Novit. Zool. vol. xx. p. 469 (1913) (El Golea).

This unfortunate insect has been banded about from pillar to post by Sir George Hampson, Mr. Warren, Mr. Oberthür, and myself. It has been called henkei Stdgr., spilota Ersch., henkei harterti Rothsch., and atrosignata Walk. The truth is that spilota Ersch., harterti Rothsch., and atrosignata Walk. are 3 subspecies of one widely-spread desert species.

The Tring Museum has 16 specimens: 2 ♂♂, 1 ♀ El Golea, 1 ♂, 1 ♀ Sandana, south of Ghardaïa, May 1912 (Hartert and Hilgert); 2 ♂♂ Bordj Mgeitla, April 1909 (W. R. and E. H.); 4 ♂♂, 4 ♀♀ Amgid, Aeeksem, Tahihout, Oued Dehin, Aïn Tahart, February—April 1914 (Geyr von Schweppenburg); 1 Colomb-Bechar, March—April 1912 (V. Faroult).

369. Anumeta sabulosa Rothsch. (Pl. XVI. f. 15.)

Anumeta sabulosa Rothschild, Novit. Zool. vol. xx. p. 129. No. 78 (1913) (South Oued Mya).

Of this very distinct species we have 11 examples at Tring from South Oued Mya, May 1912 (Hartert and Hilgert); Amgid, Oued Dehin, Aïn Tahaut, February—April 1914 (Geyr von Schweppenburg).

The type was unfortunately recorded in the original description as a \Im ; it is in reality a \mathcal{Q} .

370. Anumeta spatzi Rothsch. (Pl. XVI. ff. 11, 12.)

Anumeta spatzi Rothschild, Ann. Mag. Nat. Hist. (8) xvi. p. 257. No. 51 (1915) (Amgid).

Of this fine species the Tring series contains 11 specimens from Amgid, Tahihout, Aïn Taïba, April—May 1914 (Geyr von Schweppenburg).

371. Anumeta major Rothsch. (Pl. XVI. ff. 13, 14.)

Anumeta major Rothschild, Novit. Zool. vol. xx. p. 130. No. 79 (1913) (N. of El Golea).

In my article on Herr Geyr von Schweppenburg's collection (see above) I recorded 2 $\circlearrowleft \circlearrowleft$ and 1 \circlearrowleft as being *major*. On closer examination I find all 3 specimens from Aïn Taïba are $\circlearrowleft \circlearrowleft$.

1 ♀ north of El Golea, May 1912 (Hartert and Hilgert); 3 ♂ Aïn Taïba, May 1914 (Geyr von Schweppenburg).

The most striking difference at first sight between spatzi and major is that the black spot in the hindwing is free in the white patch in major, while in spatzi it coalesces with the brown shadow band. This is the insect Warren described as harterti while figuring the real harterti.

[Anumeta cestis cestis (Ménét.).

Catephia cestis Ménétriès Mem. Acad. Imp. St. Pet. Scien. Nat. vol. vi. Descr. Ins. Rec. feu Lehmann, p. 74. No. 870. pl. vi. f. 10 (1848) (Bachkirie).

This is a pure desert-loving insect, and where we caught it in 1909 in the Oued Souf region it was taken among the sand-dunes.

The series from Algeria when contrasted with my series from Central Asia appears less robust, and the pattern of the forewings, when the **whole** of each series is compared with the **whole** of the other series, gives a different impression; but the real difference lies in the dark patches in the hindwing, which are very heavy and generally confluent in *cestis cestis* and smaller and generally separated into three in the Algerian race.

Of cestis cestis the Tring Museum has 25 examples, of which 4 are ab. punctata Mén. and 5 ab. uniformis Warr.]

372. Anumeta cestis parvimacula subsp. nov.

♂ ♀. Differ from *cestis cestis* in being less robust and in the black markings on the hindwings being smaller in extent and generally broken up.

65 specimens, of which 10 are ab. uniformis Warr., from Bordj Ferdjan Bordj Mgeitla, Bordj Mecht-el-Kaid, April 1909 (W. R. and E. H.); Arefidji, halfway between Ouargla and El Golea, north of El Golea, Hassi el Hadjar, Hassi Dinar, March 1912 (Hartert and Hilgert); Tilghemt April, Bou Saada May 1912 (V. Faroult).

373. Anumeta hilgerti (Rothsch.).

Palpangula hilgerti Rothschild, Entom. Zeit. Stuttgart. vol. xxiii. p. 142 (1909) (Bordj Ferdjan).

The series at Tring contains 34 examples, of which 3 are ab. brunnea Warr. from Amgid, Oued Dehir, Temassinin, Oued Gif-Aman, Aïn Taïba, Oued Amra, and north of Idelès, January—May 1914 (Geyr von Schweppenburg); Oued Abiod, Hassi el Hadjar, El Golea, halfway between Ouargla and El Golea, Arefidji, March—May 1912 (Hartert and Hilgert); Colomb Bechar, March—April 1912 (V. Faroult); Bordj Ferdjan, Bordj Mgeitla, April 1909 (W. R. and E. H.).

[At the end of the paragraph on Palpangula harterti Mr. Oberthür mentions Anumeta sabulosa, stating it was described by Warren in Seitz, but that as it was not figured it was a "nomen nudum." This is Mr. Oberthür's usual proceeding, but as he goes so far as to tell his readers that such a creature had been described, he might at least have given the author's name correctly. Anumeta sabulosa was described by me, and therefore the author of the name is Rothschild not Warren. As to the question of the authenticity of a name depending on a good figure, I maintain that far oftener a good description is more easily recognised than even a good figure; especially as the figure only represents one specimen and not a whole series, and in nine times out of ten represents the peculiarities which struck the artist's eye, while the differentiating characters may not be those emphasised in the drawing.

In addition the International Rules of Nomenclature nowhere insist on anything more than a fairly accurate and consequently recognisable description, and therefore Mr. Oberthür and his friends who support him in his view about figures are not in accord with the general body of zoological opinion all over the world.]

374. Anydrophila sabourodi (D. Luc.).

Palpangula sabourodi Daniel Lucas, Bull. Soc. Entom. France, 1907. p. 180 (Zarcine, Tunisia).

Mr. Oberthür as well as the author place this species in Palpangula = Anumeta. This is quite wrong as sabourodi, and the 4 Central Asian species which form the genus Anydrophila are Catocalinae, whereas Anumeta (Palpangula) is a genus of Noctuinae separated by two families from the Catocalinae.

We have the other 4 only recorded specimens, beyond the type, at Tring. 2 33 Oued Nça, April 1914 (Hartert and Hilgert); I 3 Aceksem, April 1914 (Geyr von Schweppenburg); $1 \supseteq A$ ïn Sefra, June 1915 (V. Faroult).

375. Anumeta straminea (B.-H.).

Palpangula straminea Bang-Haas, Iris, vol. xix. p. 135. pl. v. f. 11 (1906) (Gafsa, Tunisia).

Of this characteristic species we have at Tring a large series; but curiously enough, although Mr. Oberthür says it is common at Biskra, we only obtained two specimens there during our four prolonged visits. 347 specimens from Colomb Bechar March—April 1912, Bou Saada March—May 1912 (V. Faroult); Nzaben-Rzig, Mraier, Tamerna, half-way between Touggourt and Ouargla, Arefidji, Hassi el Hadjar, north of El Golea, halfway between Ouargla and El Golea February—May 1912 (Hartert and Hilgert); south of Bledet-Ahmar, south of Ouargla, Slassel Dhanoun, Hassi Abbou, Oued Abbou, Timassinin, I-n-Kelemet, Amgid, December 1913—February 1914 (Geyr von Schweppenburg); Biskra February 1908–1911, Bordj Ferdjan, Bordj Mgeitla April 1909 (W. R. and E. H.); Tunis (Staudinger).

The British Museum has 2 \heartsuit Hammam-es-Salahin, March 1904, Lord Walsingham; 1 \circlearrowleft , 2 \diamondsuit Colomb-Bechar, February 1912, V. Faroult ex Tring Museum.

376. Leucanitis kabylaria B.-H.

Leucanitis kabylaria Bang-Haas, Iris, vol. xix. p. 136. pl. v. f. 7 (1906) (Gafsa, Tunisia).

We have at Tring 48 specimens of this insect from halfway between Ouargla and El Golea, March 1912 (Hartert and Hilgert); Bordj Mgeitla, Bordj Ferdjan April 1909, Ghardaïa April 1911 (W. R. and E. H.); Bou Saada April 1911, Bordj Chegga March 1917 (V. Faroult); Amgid, north of Idelès, Oued Ag'elil, Oued Dehin, Oued Gif-Aman, February—March 1914 (Geyr von Schweppenburg).

The British Museum has I & Tunis, Staudinger and Bang-Haas.

377. Drasteria oranensis sp. nov. (Pl. XVI. f. 16.)

्रं ्र. Antennae black-brown; head and thorax pale sandy cinnamon, central streak on tegulae and edge of patagia deep rufous; abdomen pale sandy cinnamon.

Forewing sandy cinnamon, basal one-fourth almost completely saturated with brown with a number of irregular lines and rings of black, a clear transverse convex

sandy band followed by two-thirds of remainder of wing being suffused with brown and covered with irregular black lines, leaving a whitish buff irregular patch, outer part beyond brown greyish sandy cinnamon, with brown marginal hair line, fringe white with brown central line and a dark cinnamon patch between veins 3 and 4. Hindwing white on basal two-fifths, black on outer three-fifths, black central stigma joined to black outer part in which fringe and large patch between veins 4 and apex and a small patch at vein 2 are white.

Length of forewing, 15 mm.; expanse, 33 mm. 2 ♂♂, 3 ♀♀ Aïn Sefra, May 1913 (W. R. and E. H.).

378. Acrobyla panaceorum distincta (Rothsch.).

Armada panaceorum distincta Rothschild, Novit. Zool. vol. xxii. p. 234. No. 49 (1915) (Oued Nça).

The Tring series of this insect contains 5 33, 4 99 from Oued Nça, Hassi Sidi Mahmud April 1914 (Hartert and Hilgert); Bou Saada May 1912, Aïn Sefra May 1915, Colomb Bechar March—April 1912 (V. Faroult).

379. Syneda cailino cailino (Lef.).

Heliothis cailino Lefebre, Ann. Soc. Linn. Paris. 1827. p. 94. t. 5. f. 1 (Sieily).

Of this species we have at Tring 24 Algerian examples from Bou Saada, Djebel Kerdada, April—May 1911–1912 (V. Faroult); El Kantara, March—April 1911 (W. R. and E. H., and Faroult); Oued Nga, April 1914 (Hartert and Hilgert),

380. Syneda cailino philippina (Aust.).

Lucanitis philippina Austaut, Le Nat. vol. ii. p. 237 (1880) (Oran).

Differs from c. cailino in its darker more rufous colouration and wider dark outer portion of hindwings.

1 &, 1 ♀ Colomb-Bechar, March—April 1912 (V. Faroult).

381. Raphia hybris (Hübn.).

Noctua hybris Hübner, Samml. Eur. Schmett. Noct. f. 518 (1818).

I have received 19 specimens in all from Algeria.

6 ♂♂, 9 ♀♀ Sidi-bel-Abbès, 3 ♀♀ Messer, September 1917 (M. Rotrou); 1 ♀ Forêt de Tenira, September 1918 (P. Rotrou).

1 ♂, 5 ♀ are normal in colouration; the rest are very melanistic.

382. Catocala elocata (Esp.).

Noctua elocata Esper, Schmett. vol. iv. pt. i. p. 127. No. 43. pl. xcix. ff. 1, 2 (1786).

I have received comparatively few specimens of this species.

We have 36 Mauretanian examples: Mauretania!! (Staudinger); bred ex larvae ex Batna (Dr. A. Seitz); Environs de Batna, 1909–1914 (A. Nelva); Bordj-ben-Anéridj October 1912, Aïn Draham July—September 1912 (V. Faroult); Sidi-bel-Abbès, August 1916 (M. Rotrou); Aïn Sefra, June 1915 (V. Faroult).

383. Catocala oberthuri Aust.

Catocala oberthuri Austaut, Le Nat. vol. i. p. 85 (1879) (Sidi-bel-Abbès).

I have received a large series of this insect, mostly from the topotypical locality. It appears to be much commoner in the province of Oran than in Eastern Algeria.

The series at Tring contains 386 examples from Environs d'Alger (El Biar), August 1905 (Captain Holl); Alger and Mauretania!! (Staudinger); Batna and ex larva ex Batna, July—August 1903–1912 (A. Nelva, Dr. A. Seitz, and Maître Sellier Taillefer); Aïn Sefra, July 1915 (V. Faroult); Aïn Draham, July—September 1911 (V. Faroult); Sidi-bel-Abbès, August 1918 (M. Rotrou); Sebdou, September 1918 (P. Rotrou).

The series varies much in the shade of colour and accentuation of pattern in the forewings and in the width of the black outer margin of the hindwings. Among this series are specimens distinctly referable to ab. transiens B.-H., but I have not received either ab. flavicans Oberth, or ab. haroldiana Oberth.

Among the Aïn Sefra series are 3 33 and 2 99 of a very strange aberration, very large and suffused with red; this I propose to call ab. erubescens ab. nov.

The genitalia of *oberthuri* and *elocata* are alike, and there are in my series some which look suspiciously like intermediates more or less. I am therefore very doubtful as to the validity of the two species; it may very well turn out that *oberthuri* is a subspecies of *clocata* still in the making.

The British Museum has 1 ? Morocco, August—September, Meade-Waldo; 2 ? Crowley coll.; 4 ? ? Standinger and Bang-Haas and Leech coll.

384. Mormonia dilecta powelli (Oberth.).

Catocala dilecta powelli Oberthür, Etud, Lépid, Comp. fasc, iii, expl. pl. and pl. xii. f. 13 (1909) (Daya).

The Algerian race of dilecta Hübn. differs from dilecta dilecta by its more intense crimson hindwings and its greater variation in colour and pattern of forewing. The ab. dayremi Oberth, is the extreme melanistic phase and = ab. obscurata Spul, of dilecta dilecta Hübn.

The large series at Tring includes most of the intergradations as well as extreme dayremi.

We have 1,035 examples from Environs d'Alger (Captain Holl); Aïn Draham, September 1909–1911 (V. Faroult); Sebdou, July—August 1918 (P. Rotrou); Sidi-bel-Abbès, August 1918 (M. Rotrou).

The British Museum has 1 \circlearrowleft Batna, August 1910, A. E. Eaton ; 1 \circlearrowleft , 1 \supsetneq Aïn Draham, Staudinger and Bang-Haas.

385. Mormonia sponsa laeta (Oberth.).

Catocala sponsa laeta Oberthür, Etud. Lépid. Comp. fasc. iii. expl. pl. and pl. xii. f. 15 (1909) (Yakouren).

The Algerian race of sponsa Linn, differs from sponsa sponsa in being larger and brighter and more variegated with white. Mr. Oberthür has also named a melanistic form ab. obscura,

The Algerian series at Tring is a very poor one, and mostly not in good condition.

22 specimens from Aïn Draham, September 1909-1911 (Faroult and Staudinger); Sebdou, August 1918 (P. Rotrou).

386. Catocala promissa hilaris Oberth.

Catocala promissa hilaris Oberthür, Etud. Lépid. Comp. fasc. iii. expl. pl. and pl. xiii. f. 17 (1909) (Yakouren).

Catocala electra Bang-Haas, Iris, vol. xxiv. p. 41. pl. iv. f. 1 (1910) (Ain Draham).

The figure of Mr. Oberthür's hilaris from Yakouren is considerably darker and the median black band on the hindwing is shown much broader than in any Ain Draham specimen; it also is smaller than most of those from there.

Dr. Jordan has examined the genital armature for me of this and European promissa, and finds them similar. My readers will surely take me to task for adopting Mr. Oberthür's views here as to the status of promissa and hilaris, while I keep the much more similar insects as regards outward appearance, elocata and oberthuri separate.

Although the genitalia are alike, I can only say that in that case they occur together, while here hilaris replaces sponsa.

Time will show also whether after all the case may not be similar and that oberthuri replaces elocata, but is not yet so fixed as hilaris and therefore still produces a certain number of specimens, indistinguishable from elocata.

I have one specimen only other than Aïn Draham ones; of these latter we possess 1'98 Aïn Draham, July—August 1909–1911 (V. Faroult and Staudinger); 1 & Le Tarf, July 1908 (Captain Holl).

The British Museum has 1 ♂, 1 ♀ Aïn Draham, Staudinger and Bang-Haas.

387. Catocala optata sultana B.-H.

Catocala sultana Bang-Haas, Iris, vol. xxiv. p. 42. pl. iv. f. 2 (1910) (Ain Draham).

Mr. Oberthür is very emphatic as to the *optata* found in Algeria, Tunisia, and Morocco being all one entity and found in two forms named *amanda* Boisd, and *selecta* Boisd, and that Bang-Haas renamed this form *sultana*. Also because he has received a **single** specimen from **Tangier less** strongly marked and **less** bright than **Bordeaux** specimens, he says there is no fixity in local races, *i.e.* subspecies.

If these subspecies were absolutely fixed and showed a constant strong difference they would be species and not *subspecies*. To my mind, if 75-80 per cent. of specimens in one locality are constantly different from those of another locality, the form is worthy of a name.

The Ain Draham form has at least 95 per cent. of the individuals larger and the colour above brighter than optata optata, and it is also larger and brighter than optata amanda Boisd., which only differs from optata optata in the sandy tint and deeper rose-colour beneath. This large Mauretanian form extends all along the Tell of Algeria, north of the Atlas, from Sidi-bel-Abbès in the west to Ain Draham in Tunisia (Kroumerie) at least in the east.

The series at Tring contains 143 specimens from Aïn Draham, July—August 1909–1911 (V. Faroult and Staudinger); Sidi-bel-Abbès, July—August 1917 (M. Rotrou).

The British Museum has 1 \circlearrowleft , 1 \circlearrowleft Aïn Draham, Staudinger and Bang-Haas.

388. Catocala optata intermedia Hmpsn. (Bang-Haas in litt.).

Catocala optata ab. intermedia Bang-Haas incd, Hampson, Cat. Lepid. Phal. Brit. Mus. vol. xii. p. 72. ab. I (1913) (Algeria (Batna)).

This is the form Mr. Oberthür says is amanda Boisd.; it differs from both optata optata and optata amanda in the black central band of the hindwings being much less irregularly dentate, and in being narrow for the costal half and suddenly becoming broader from vein 5 where it forms a sharp angle. It also is still brighter rose than o. amanda on the underside of the hindwings.

Our series contains 38 specimens from Batna, July—August 1910–1914 (A. Nelva and Faroult).

The British Museum has 1 & Batna, Staudinger and Bang-Haas.

389. Catocala puerpera rosea Aust.

Catocala puerpera var. rosea Austaut, Le Nat. vol. vi. p. 391 (1884) (Morocco).

The rather poor series I have are all characteristic rosea, being larger than puerpera puerpera Giorn. with the forewings sandy cinnamon, strongly washed with rose.

17 examples from Aïn Sefra, July 1915 (V. Faroult); Sidi-bel-Abbès, July—August 1917–1918 (M. Rotrou); Sebdou, July 1918 (P. Rotrou).

390. Catocala conjuncta vivida Warr.

Catocala conjuncta vivida Warren in Seitz, Grossschmett. Erde, vol. iii. p. 308. pl. 56b (1913) (Algeria).

We have 749 Algerian examples, including the type of Warren's ab. *fulva* with fulvous yellow hindwings, from Sidi-bel-Abbès September 1917 (M. Rotrou); Ain Draham September 1909–1911 (V. Faroult and Staudinger); Environs d'Alger (Captain Holl); Sebdou, Forêt de Tenira, July 1918 (P. Rotrou).

The colour of the hindwings in Mauretanian examples is deeper and richer.

391. Ephesia nymphaea (Esp.).

Noctua nymphaea Esper, Schmett. vol. iv. pt. i. p. 158. No. 52. pl. cv. f. 4 (1787) (Lyons).

This insect is also very variable as to colour and intensity of pattern of forewings, many specimens almost exactly resembling *Ephesia flavescens* Hampson from India, which must stand as *Ephesia nymphaea flavescens* Hampson.

Our Mauretanian series contains 289 specimens from Blida les Glacières larvae June, emerged Alger July 1908 (W. R. and E. H.); Tala Rana, July 1906 (Dr. Nissen); Mazagan, Morocco, July—September 1901–1902 (W. Riggenbach); El Kantara, June 1909 (Cheli Brahim); Aïn Draham, July 1909–1911 (V. Faroult and Staudinger); Batna, July 1908–1914 (Nelva and Taillefer); Aïn Sefra, July 1915 (V. Faroult); Sidi-bel-Abbès July 1917, Les Pins July 1918 (M. Rotrou); Sebdou, July 1918 (P. Rotrou).

392. Catocala conversa (Esp.).

Noctua conversa Esper, Schmett. vol. iv. pt. i. pl. cv.B. ff. 1, 2, 3 (1787).

Of this species our Algerian and Tunisian examples number 228, including the aberrations carbonaria Staud. and seminigra Warr. 156 from Tunis (Stau-

dinger); Aïn Draham July—August 1911, Hammam R'hira June—August 1916, north side of Djebel Zaeear August 1916, Meeheria August 1918 (V. Faroult); Batna, July 1909–1912 (A. Nelva); Sidi-bel-Abbès July 1917, Les Pins July 1918 (M. Rotrou); Sebdou, July 1918 (P. Rotrou).

393. Ephesia eutychea (Treit.).

Catocala eutychea Treitschke, Schmett. Eur. vol. x. pt. ii. p. 165 (1835) (Corfu).

Although I have only the small series of 15 specimens of this southern species from Mauretania, it appears widely spread. It is here recorded for the first time for our region.

4 \circlearrowleft \circlearrowleft Hammam R'hira June 1916, 2 \circlearrowleft \circlearrowleft 1 \circlearrowleft Masser Mines June 1914 (V. Faroult); 1 \circlearrowleft Sebdou, 1 \circlearrowleft , 1 \circlearrowleft Forêt de Tenira June 1918 (P. Rotrou); 1 \circlearrowleft Sidi-bel-Abbès, June 1918 (M. Rotrou).

[On the status of Catocala vallantini Oberth. (Pl. XIV.)

This insect was described as a species and figured Etud. Entom. livr. xix. p. 36. pl. vi. f. 53 (1894) (Bône) by Mr. Oberthür. In 1901 Messrs. Staudinger and Rebel in Cat. Lepid. Pal. Faun. on p. 250 (pt. i.) place this as a species following nymphagoga with the number 2,716; but make certain remarks which I translate as follows: "Described from a single of; judging from the type specimen, this appears to be an aberration of the preceding species (nymphagoga), although Staudinger would rather see in it a subspecies." In 1912, when Sir George Hampson was writing vol, xii, of the British Museum Catalogue, I lent him all my large series of Catocalas captured by Vietor Faroult at Ain Draham in July-September 1911, among which were 3 vallantini and a long series of the insect Mr. Oberthür has recorded as nymphagoga without any qualification. Among these so-ealled nymphagoga are a considerable number in which the median black band of the hindwing is in process of reduction, and there is a complete gradation from the normal band to a band almost obsolete. Besides these there are two specimens, one a vallantini showing a distinct shadowy trace of the band, and a second in which the band is present, but almost gone. I suggested to Sir George Hampson that vallantini was only an aberration of the so-called nymphagoga. Sir George, however, after examining the series, eame to a different eonelusion; in faet he declared, and afterwards published in vol. xii. of the Catalogue, that vallantini was a distinct species and belonged to Hübner's genus Ephesia, while nymphagoga was a true Catocala. In 1913 in Seitz Mr. William Warren published vallantini as a subspecies of nymphagoga, at the same time treating some of the Algerian examples, with a normal central band to the hindwing, as nymphagoga, and describing others as subspecies!! under the names of griseata and albimixta; while others again he described as aberrations under the names of contorta, fasciata, and fulvipennis. Finally Mr. Oberthür in the volume dealt with in this article, viz. Etudes de Lépidoptérologie Comparée, fascieule xvi., treats his so-called nymphagoga and his vallantini as two separate species; and under vallantini makes the following remarks: "C'est une Espèce des plus tranchées et les moins contestables parmi les Catocala à ailes inférieures jaunes de la Faune paléarctique."

When I was working at the British Museum during the months of Mareh-

July of this year (1919) preparing for this article and correcting identifications of Mauretanian Noctuidae, I again submitted the series of Aïn Draham so-called nymphagoga and my 3 vallantini to Sir George Hampson, saying I could not feel satisfied with his former decision, and was still of opinion that vallantini was an aberration without the central band of the hindwings. He again said he was sure they were different species, and now laid great stress on what he pointed out as the different position and direction of the transverse lines of the forewings.

I was not satisfied with this answer, and got Dr. Jordan to examine a series of these insects, both from Europe and Algeria.

Sir George Hampson in the *Catalogue*, vol. xii. gives long diagnoses of the genera *Catocala* and *Ephesia* which I have carefully compared, and find all the characters given by him for both genera are the same except the following:

Ephesia. "Fore and hind tibiae not spined; mid tibiae spined. . . ."

Catocala. "Fore tibiae not spined; mid and hind tibiae spined, the latter only between the spurs. . . ."

Dr. Jordan found both European nymphagoga and the Algerian specimens with complete median band on hindwing, as well as vallantini, to have one or two spines on the hind tibiae; thus in the first place proving that vallantini is a true Catocala and not an Ephesia. (These spines are more of the nature of stiff bristles, protruding between the scales of the legs, and must not be confused with the spurs.)

Now, after Dr. Jordan had proved vallantini to be possessed of spines exactly as in nymphagoga, he and I carefully compared the pattern of the forewings to test the validity of Sir George Hampson's contention that the transverse lines on the forewings were different in vallantini. At first sight this really appeared to be the case, but we soon found that when the strongly dentate and sinuate postmedian line had become obsolete, the ordinarily much less conspicuous submarginal band stood out more plainly. This submarginal band is much further from the termen than in most other groups of *Noctuidae*, and is easily mistaken for the postmedian line in the specimens where this latter has become obliterated. There are, however, in the series from Ain Draham a number where the postmedian line on the forewings is quite as much absent as in vallantini, while the hindwings have the central band. These at once proved to us that the Catocala vallantini Oberth. = Ephesia vallantini of Hampson was nothing more than an extreme aberration in which the greater part of the pattern of the forewings had become obliterated, and the central band of the hindwings had disappeared altogether. To prove this and also illustrate the great variability of this insect, I propose to publish a coloured plate showing a complete gradation from the forewing with all markings extremely sharp to the almost complete obliteration exhibited in Warren's ab. griseata &, and also every gradation in the hindwing from one with a distinct sharply defined central band = ab. normalis Rothsch, to the total absence of the band = ab. vallantini Oberth.

But our thus proving that *vallantini* Oberth, is only an extreme aberration does not entirely explain all points connected with this insect. When in 1901 Drs. Staudinger and Rebel made their observations on the type and unique specimen, as it was then, of *Catocala vallantini* Oberth, there were no other examples of a *Catocala* known from Algeria of the *nymphagoga* type, and this was what chiefly induced Staudinger in opposition to Rebel to consider it to be the Mauretanian subspecies of *nymphagoga*. The large series sent from Algeria and *

Tunisia since 1901 make it at once apparent that Staudinger was wrong and Rebel right as regards vallantini itself.

Now, however, the question arises, What are the specimens with median bands on the hindwings? Are they true nymphagoga or are they not? Esper described and figured his Noctua nymphagoga Schmett, vol. iv. pt. i, p. 159, No. 53, pls. ev. f. 5 and cv.b. f. 5 (1787) from Lyons and South Italy, and I have examined at Tring a series of 146 European specimens consisting of 8 without any locality and 138 from Quillery, France; Landes, S. France; Germany; Dalmatia; Austria; Hereulesfürdő, Hungary; Sorgento, Sardinia; Sicily; and Amanus Mts., Syria, and I have compared them with 367 Algerian and Tunisian examples. Among the European examples are specimens of the ab. anthracita Th. Mieg., ab. tinolia Led., ab. curvifascia and ab. nubilosa Schulze, as well as the type of ab. albinata Warr.; while among the Mauretanian examples are the ab. vallantini Oberth., ab. normalis Rothsch., ab. leucomelas Oberth., ab. albimixta Warr., ab. griseata Warr., ab. fasciata Warr., ab. fulvipennis Warr., and ab. contorta Warr. I find the general run of Mauretanian examples (in fact 95 per cent.) are smaller, and in all of them the yellow of the hindwing is very bright, and there is much more tendency for the pattern of the forewings to become obliterated, while the central band of the hindwings shows all degrees of reduction till it is absent altogether in typical ab. vallantini.

In the whole of the 146 European nymphagoga at Tring there is no specimen exhibiting any reduction of this central band, nor is there in the British Museum series. From all these points of difference, it is clear that the Mauretanian nymphagoga differ from the European ones. It remains to be seen what they ought to be called. Of the 8 names applied to Mauretanian specimens, that of vallantini Oberth, is not only the oldest but also was not used in an aberrational sense when first given. Therefore the name for the Mauretanian subspecies of nymphagoga must stand as Catocala nymphagoga vallantini Oberth, with two extreme forms ab. normalis Rothsch, with complete median band to the hindwing and ab. vallantini Oberth, with this band absent.]

394. Catocala nymphagoga vallantini Oberth. (Pl. XIV, ff. 1-24 & 30-39.)
Catocala vallantini Oberthür, Etud. Entom. livr. xix. p. 36. pl. vi. f. 53 (1894) (Bône).

This subspecies differs from nymphagoga nymphagoga Esp. in its generally smaller size, brighter colouration, especially the yellow colour, and the narrower outer margin of the hindwing, and in the strong tendency to obliteration of pattern of forewing and the central band of the hindwing. There are two extreme forms: one ab. normalis ab. nov. with pattern of forewing and central band of hindwing strongly defined, and ab. vallantini Oberth. with the pattern of forewing almost obliterated and the band of hindwing absent. Between these extremes all intergradations occur; for the names of the various intermediates see antea.

The Tring series contains 376 Mauretanian examples from Aïn Draham, Tunisia, July 1909–1911 (V. Faroult and Staudinger); éx larva, the larvae Blida les Glacières May, emerged Alger July 1908 (W. R. and E. H.); Tala Rana, Kabylie July 1908, Mezarir July 1906, Lella Kredidja, Kabylie July 1907 (Dr. Nissen); Sebdou, Forêt de Tenira, July 1918 (P. Rotrou); Sidi-bel-Abbès, July 1918 (M. Rotrou); El Mahouna, July 1919 (V. Faroult).

[Note on the genus Ephesia Hübn.

Sir George Hampson takes as the type of *Ephesia*, *Phalaena fulminea* Scop. On examination of the long series of the species at Tring, Dr. Jordan found spines present on the hind tibiae in some individuals, while they were absent in others.]

395. Anua tirhaca (Cram.).

Phalaena tirhaca Cramer, Pap. Exot. vol. ii. pt. xv. p. 116. pl. elxxii. f. E. (1777) (Cape of Good Hope).

Of this conspicuous insect the Mauretanian series at Tring comprises 36 examples from El Kantara, March 1911 (W. R. and E. H.); Batna September 1910, Aïn Draham September 1911, Guelt-es-Stel September—October 1912—1913, Bou Saada July 1911, Bordj-ben-Anéridj October 1912, Perrégaux October 1915, Lalla Marnia 1914 (V. Faroult); Sidi-bel-Abbès, September 1917 (M. Rotrou); Environs de Taourirt, July 1918 (M. Rotrou); Hammam R'hira, June 1918 (V. Faroult).

[Minucia lunaris (Schiff. & Den.).

Phalaena lunaris Schiffermüller and Denis, Ank. Syst. Werk. Schmett. Wienergeg. p. 94 (1775) (Vienna).

Mr. Oberthür records the Mauretanian race of this species under the name of the European form, and only treats certain striking aberrations as such under the names of maura, rufa, and murina. It is quite true that while Mr. Oberthür has several hundred specimens from Mauretania, the Tring Museum has only 89, but yet among those 89 there are none like typical European specimens. I therefore propose to separate the Mauretanian race as a separate subspecies, and as it is very appropriate I shall adopt for it Mr. Oberthür's name of maura, although only given to an aberration.]

396. Minucia lunaris maura (Oberth.).

Pseudophia lunaris ab. maura Oberthür, Etud. Entom. livr. ix. p. 39. pl. iii. f. 13 (1884) (Sebdou).

The Tring series of *l. maura* contains 5 ab. *rufa* Oberth., 4 ab. *murina* Oberth., but no typical *maura*, all the rest being intermediates between *murina* and *maura*.

89 examples from Batna, Lambessa (A. Nelva); Khenchela May 1912, Souk Ahras April 1914 (W. R. and K. J.); Sebdou, Forêt de Tenira, April 1918 (P. Rotrou); Lambessa May 1909, Environs d'Alger May 1908 (W. R. and E. H.).

So far as I have seen, the sandy cinnamon-grey colour of the European form is never found in Mauretanian specimens, so that the diagnosis should read: "Differs from *l. lunaris* in the less sandy, more silvery grey ground-colour and in the much greater frequency of aberrations with red, olive, or mouse-grey ground-colour, and with obliterated bands."

[The genus Clytie and the forms allied to illunaris Hübn.

Mr. Oberthür records Clytie illunaris from Algeria and says he has received specimens from various places all extremely variable, some being identical with illunaris, while others agreed with sancta Stdgr. and syriaca Bugn. I myself have, in addition to describing Clytie arenosa as new, from time to time recorded various

Clyties from Mauretania, viz. terrulenta Christ.; delunaris Stdgr.; and syndaja Hmpsn.

Now, the various species and races of this genus are very puzzling, owing mainly to the variation in the submarginal or postdiscal band on the forewings. Sir George Hampson enumerates the following as distinct species: devia Swinh.; scotorrhiza Hmpsn.; sancta Stdgr.; illunaris Hübn.; haifae Habich; distincta B.-H.; sydaja Hmpsn.; arenosa Rothsch.; syriaca Bugn.; sublunaris Stdgr.; nabataea Hmpsn.; delunaris Stdgr.; and terrulenta Christ. Mr. Warren in Seitz has described and figured in addition to these luteonigra from the Amu Darya. I have non-Algerian examples of all these, except distincta B.-H., scotorrhiza Hmpsn., devia Swinh., and nabataea Hmpsn., more or less from their typical localities, and I find that I have among my Algerian material certainly the following: nabataea Hmpsn., arenosa Rothsch., sancta Stdgr., and syriaca Bugn., but I have not got a single specimen at all agreeing with illunaris. In addition to these 4 I have 1 \nabla from Aïn Draham which agrees exactly with Warren's luteonigra, except that it is larger than the 3 Amu Darya examples. There remain the insects I recorded as sublunaris and terrulenta.

The series collected by Herr Geyr von Schweppenburg in and north of the Hoggar Mountains recorded by me as *delunaris* are, I am now convinced, only very fresh and sharply marked *sancta* Stdgr. The insects recorded as *terrulenta* are certainly very small, but I am more inclined now to admit an error of identification and consider them sandy *sancta*.

397. Clytie sancta (Stdgr.).

Pseudophia sancta Standinger, Iris, vol. x. p. 301 (1897) (Palestine).

By far the larger number of Clytie at Tring consist of this form.

95 examples from South Oued Mya, May 1912 (Hartert and Hilgert); Oued Ahmra, Oued Ag'elil, Oued Gif-Aman, Oued Tamoudat, Idelès, north of Idelès, March 1914 (Geyr von Schweppenburg); Aïn Sefra July 1915, Masser Mines, June 1914, Guelt-es-Stel October 1912, El Mesrane June 1913, Bou Saada May 1911, El Kantara March—August 1911–1917, Batna 1910 (V. Faroult); Les Pins August 1918 (M. Rotrou).

398. Clytie arenosa Rothsch.

Clytic arenosa Rothschild, Novit. Zool. vol. xx. p. 128. No. 69 (1913) (South Oued Mya).

Of this rare species we have at Tring 3 specimens: $1 \circlearrowleft$, $1 \circlearrowleft$ Oued Mya, May 1912 (Hartert and Hilgert); $1 \circlearrowleft$ Oued Tahihout, April 1914 (Geyr von Schweppenburg).

399. Clytie syrdaja Hmpsn.

Clytie syrdaja Hampson (Pseudophia syrdaja, B.-H. ined.), Cat. Lepid. Phal. Brit. Mus. vol. xiii, p. 293. No. 8102. pl. eexxxi, ff. 19, 20 (1913) (Aulie Ata).

1 ♀ El Mesrane June, Guelt-es-Stel July 1913 (V. Faroult).

400. Clytic Iuteonigra Warr.

Clytie luteonigra Warren in Seitz, Grossschmett. Erde, vol. 3. p. 338. pl. 62d. (1913) (Amu Darya).

1 ♀ Aīn Draham, Tunisia, September 1911 (V. Faroult).

401. Parallelia algira (Linn.).

Phalaena algira Linnaeus, Syst. Nat. edit. xii. p. 836. No. 98 (1767) (Algeria).

There appear to be two forms of this species: one, a smaller one with the median band narrow and much constricted in the centre on forewing and more or less obscured by dark scales giving it a mauve tinge and with the band on hindwing very narrow; and two, a larger one with the band on forcwing broad and very little constricted and white and the band on hindwing much broader.

This latter has been placed together with Syrian, Egyptian, and Arabian specimens under albivitta Guen. by Warren, who says in Seitz: "Always larger than algira," forgetting that Guenée says his albivitta is the same size as algira. Warren also attributes the name albivitta erroneously to Moore instead of Guenée.

Sir George Hampson unites torrida Guen., albivitta Guen., festina Walk., olympia Swinh., and algiroides Schultz under algira, and gives it an enormous range from France to Turkestan, all over Africa, Asia Minor, India, and Ceylon. I have too small a material to judge if he is right or whether there are two or more species or a series of subspecies.

We have at Tring 59 Mauretanian examples from Environs d'Alger (Dr. Nissen); Hammam Meskoutine, May 1909–1914 (W. R., E. H., and K. J.); Hammam R'hira, May—August 1908–1916 (W. R. and K. J., and Faroult); Aïn Draham, Tunisia August 1911, north side of Djebel Zaccar August 1916, Guelt-es-Stel September 1913, Aïn Sefra July 1915, Perrégaux October 1915, Aflou October 1916 (V. Faroult); Oran, April 1913 (W. R. and E. H.); Djebel Kerdada May 1912, El Kantara August 1917 (V. Faroult); Biskra, June 1912 (Hartert and Hilgert); Sebdou, Forêt de Tenira, June 1918 (P. Rotrou); Sidi-bel-Abbès, September 1917 (M. Rotrou); El Mahouna, July 1919 (V. Faroult).

402. Grammodes stolida (Fabr.).

Noctua stolida Fabricius, Syst. Entom. p. 599. No. 38 (1775) (East India).

Of this species the series from Algeria at Tring conuprises 44 specimens from Ghardaïa May, Oucd Nça June 1912 (Hartert and Hilgert); Guelt-es-Stel July—September 1912–1913, Tilghemt April 1912, Bou Saada April 1912, El Outaya August 1918, Batna July 1910, north side of Djebel Zaccar August 1916, Alger January 1914 (V. Faroult); El Kantara, June—August 1909–1917 (Cheli Brahim and Faroult); Sidi Ferruch, July 1911 (A. Théry); Sidi-bel-Abbès, Les Pins, May—September 1917–1918 (M. Rotrou); Schdou, Forêt de Tenira, August 1918, (P. Rotrou).

The British Museum has 1 \(\rightarrow \) Batna, August 1910, A. E. Eaton.

403. Grammodes boisdeffrei (Oberth.).

Ophiusa boisdeffrei Oberthür, Etud. Entom. livr. i. p. 54. pl. 4, f. 6 (1876) (Biskra).

2 & d, 1 ♀ Biskra, March 1914 (W. R. and E. H., and Staudinger).

The British Museum has 1 ♂ Batna, August 1910, A. E. Eaton; 3 ♂♂, 2 ♀ Hammam-es-Salahin, April 1904, Lord Walsingham.

404. Grammodes geometrica (Fabr.).

Noctua geometrica Fabricius, Syst. Entom. p. 599. No. 37 (1775) (East India).

1 $\mbox{$\mathbb Q$}$ Aïn Draham, Tunisia, August 1911 ; 1 $\mbox{$\mathbb A$}$ Hammam R'hira, May 1917 (V. Faroult).

[On Cerocala scapulosa Hübn., sana Stdgr., insana Herr-Sch., and algiriae Oberth.

Mr. Oberthür is continually complaining that other authors neglect his work and do not trouble to look up his species; in the case of the Mauretanian Cerocalas it is he who has neglected other people's work, and persisted in uniting sana and his own algiriae specifically with scapulosa, with which they have nothing to do-being very distinct species differing from each other and from scapulosa in the genital armature, in the antennae, and in the legs. Sir George Hampson in vol. xiii. of the Catalogue already separated the 3 forms into 3 species, but after catching a large series at Aïn Sefra and receiving many from elsewhere I was not sure if there might not be more and I asked Dr. Jordan to investigate the material we possessed. This he did very thoroughly, and published the result in Novitates Zoologicae, vol. xxii. pp. 267-270, text figures 1-10 (1915). While Sir George Hampson is right in separating this group of Cerocala into 3 species, he has not got the synonymy of the two Mauretanian species quite right, as scapulosa Luc. nec Hübn, belongs to sana and not to what he calls insana, but which must stand as algiriae Oberth. I consider the figure of Herrich-Schäffer and his locality so doubtful that the name cannot be used for either of the Mauretanian species and I call them Cerocala sana Stdgr. and Cerocala algiriae Oberth. Mr. Oberthür says he has never received what he calls the typical form of scapulosa, as found in Andalusia, from Algeria; this is quite natural, for the true scapulosa is a perfectly distinct species from the two found in Mauretania and so far has never been recorded from south of the Mediterranean, although the 2 other species have been at various times called scapulosa and otherwise confused with it. Mr. Oberthür, at the end of his article on Cerocala scapulosa, somewhat qualifies his statements by saying that the fact of not finding the larger and darker true scapulosa in Mauretania might lead one to consider algiriae a distinct species. As a matter of fact Sir George Hampson's, William Warren's, and lastly Dr. Jordan's exhaustive studies and dissections of these Cerocalas have proved beyond doubt that there are 3 distinct species of Cerocala of this section, distinct in structure of genitalia, legs, and antennae as well as in appearance, viz. Cerocala scapulosa (Hübn.), Cerocala algiriae Oberth., and Cerocala sana Stdgr.]

405. Cerocala algiriae Oberth.

Cerocala scapulosa var. algiriae Oberthür, Etud. Entom. vol. i. p. 55. pl. iv. f. 7 (1876) (Bou Saada).
Cerocola insana Hampson, Cat. Lepid. Phal. Brit. Mus. vol. xiii. p. 270. No. 8076 (1913) (Biskra).
? Grammodes insana Herrich-Schäffer, Aussereur. Schmett. f. 395 (1850) (Cape of Good Hope).
Cerocala scapulosa form. biskrensis Culot, Noct. et Géom. d'Eur. pt. i. vol. ii. p. 182. pl. 73. f. 5 (1916) (Biskra).

The series of this species at Tring includes individuals agreeing both with the figures of algiriae Oberth, and biskrensis Culot, the latter being rubbed specimens, and consists of 194 examples from Colomb Bechar March and April 1912, Bou Saada March—May 1911–1912, Tilghemt April 1912, Laghouat March 1912, El Hamel May 1912, Bordj Chegga and Bir Stil March 1917 (V. Faroult); Ghardaïa and Tilghemt, April 1911 (W. R. and E. H.); Guelt-es-Stel, March—April 1912–1913 (W. R. and K. J., and Faroult); El Kantara March—April 1911, Aflou October 1916 (V. Faroult); halfway between Ouargla and El Golea, Hassi el Hadjar, Arefidji north of Ouargla, Bordj Chegga, north of El Golea, February—

March 1912, Hassi Sidi Mahmoud and Oued Nça April 1914 (Hartert and Hilgert); Biskra, March 1908 (W. R., and E. H.); Gafsa, Tunisia (Staudinger); Ain Sefra, May 1913–1915 (W. R. and E. H., and Faroult).

The British Museum has 1 & Biskra, April 1894, A. E. Eaton; 1 & Biskra March 1906, 2 &&, 2 &\text{Hammam-es-Salahin March—April 1904, Lord Walsingham; 1 & Tozeur, Tunisia, 1913, G. C. Champion.

406. Cerocala sana Stdgr.

Cerocala scapulosa var. sana Staudinger, Cat. Lepid. Pal. Faun. p. 241. No. 2594a (1901) (Antioch, Syria).

Cerocala scapulosa var. Lucas, Ann. Soc. Entom. France (2) 8. p. 103. pl. 2. f. 3 (1850) (Djebel Amour). Cerocala scapulosa var. insana Staudinger, Cat. Lepid. Europ. Faun. edit. ii. p. 135. No. 1923a (1871) (Syria).

Of this species the series at Tring consists of 192 examples from Aïn Sefra, May 1912–1915 (W. R. and E. H., and Faroult); Biskra March 1908, Kef-el-Dor, Bordj Ferdjan and Bordj Mgeitha April 1909 (W. R. and E. H.); South Oran (Staudinger); Colomb-Bechar March—April 1912, Bon Saada May 1911–1912, Laghouat March 1912 (V. Faroult); Bordj Chegga, Nça hen Rzig, halfway between Ouargla and El Golea, Arefidji north of Ouargla, north of El Golea, Hassi el Hadjar February—March 1912 (Hartert and Hilgert); Ghardaïa, April 1911 (W. R. and E. H.); El Hamel May 1912, Guelt-es-Stel May 1913, Djelfa May 1913 (V. Faroult); Oued Nça April 1914 (Hartert and Hilgert); Hammam R'hira, May 1916 (V. Faroult).

407. Antarchaea viridaria (Clerck).

Phataena viridaria Clerck, Icones Ins. Rar. sect. i. pl. 9. f. 12 (1759).

This species is not recorded by Mr. Oberthür; all my 6 specimens belong to the ab. modesta Car. with the maroon colour almost absent.

5 Hammam R'hira, May 1911 (W. R. and E. H.); 1 Souk Ahras, April 1914 (W. R. and K. J.).

408. Antarchaea sanctiflorentis aurantiacus subsp. nov.

♂♀. Differ from sanctiflorentis sanctiflorentis Boisd, from Spain by the orange-rufous, ground-colour and the generally larger size, outer half more or less suffused with maroon red.

Mr. Oberthür records sanctiflorentis from Aïn Draham with no remarks. If he really got typical grey sanctiflorentis from Aïn Draham, my insect is a new species; but until I have seen Mauretanian specimens of true sanctiflorentis I prefer to treat this form as a good subspecies only.

9 Aïn Draham, Tunisia, July 1911 (V. Faroult).

409. Antarchaea erubescens (B.-H.). (Pl. XVI. f. 10.)

Prothymnia erubescens Bang-Haas, Iris, vol. 24. p. 40. pl. iii. f. 11 (1910) (South Oran).

The figure given in *Seitz* appears to be quite wrong. My \mathcal{Q} is the second specimen recorded and differs from the \mathcal{J} in the whole forewings being so strongly

suffused with red that the yellow ground so apparent in the δ is entirely invisible; the median line of forewings more complete and visible than in the δ .

 $1\, \odot$ Djebel Mekter, nr. Aïn Sefra, 1,600–1,900 metres = 5,200–6,175 ft., May 1913 (W. R. and E. H.). ·

410. Rivula sericealis distincta subsp. nov.

- 3. Differs from sericealis sericealis Schiff, and Den. in having the curved band, leading from the reniform obliquely to the inner margin, distinctly defined instead of being a shadowy outline only; smaller and less yellow, more cream-buff.
 - Q. With similarly well-defined band, but not so extended as in 3, and

ground-colour yellower.

1 ♂ Oued Hamidou, June 1912 (V. Faroult); 1 ♂ Hammam Meskoutine, May 1909 (W. R. and E. H.); 1 ♀ Environs d'Alger, May 1908 (W. R. and K. J.); 1 ♂ Sidi-bel-Abbès, October 1917 (M. Rotrou); 1 ♂ Sebdou, September 1918 (P. Rotrou).

411. Parascotia nisseni Turati.

Parascotia nisseni Turati, Il Natur. Sicil. vol. xx. p. 34 (1908) (Alger).

Of this rare species I have only received 5 specimens. Neither Mr. Culot nor Mr. Oberthür mention the insect.

1 Environs d'Alger, May 1906 (Dr. Nissen) (co-type); 1 Aïn Draham, Tunisia, July 1911 (V. Faroult); 1 Hammam Meskoutine, May 1914 (W. R. and K. J.); 1 Hammam R'hira, May 1916 (V. Faroult); El Mahouna, June 1919 (V. Faroult).

412. Zethes insularis Ramb.

Zethes insularis Rambur, Ann. Soc. Entom. France, vol. ii. p. 29. pl. 2. f. 1 (1833) (Ajaccio).

Of this Mediterranean species the Mauretanian series at Tring contains 38 examples from Hammam R'hira, May—September 1908–1917 (W. R., E. H., and K. J., and Faroult); Hammam Meskoutine, May 1914 (W. R., E. H., and K. J.); north side of Djebel Zaccar August 1916, Guelt-es-Stel May 1913, Oued Hamidou June 1912, Aïn Sefra July 1915 (V. Faroult); El Mahouna, June 1919 (V. Faroult).

One of the 3 Aïn Sefra specimens stands out from the rest of the 37 examples by its brilliant colouration and very sharply defined markings.

413. Hydrilla caliginosa (Hübn.).

Noctua caliginosa Hübner, Samml. Eur. Schmett. Noct. No. 474 (1818).

I have only received a single example of this species from Mauretania.

1 & Blida, December 1915 (V. Faroult).

414. Miselia softa luteocinnamomea subsp. nov. (Pl. XVII. f. 7.)

Differs from softa softa Stdgr. from Palestine in its sandy rufous-cinnamon not grey ground-colour and in the pattern being more sharply defined.

1 & El Kantara March—April 1911, 1 & Perrégaux October 1915, 2 & Bou Saada May 1911 (V. Faroult).

There are 1 ♂, 1 ♀ in the British Museum from Hammann-es-Salahin, May 1904 (Lord Walsingham).

415. Miselia peregrina (Treit.).

Hadena peregrina Treitschke, Schmett. Eur. vol. v. pt. i. p. 330. No. 11 (1825) (South of France).

I have received 2 specimens of this species.

1 ♂, 1 ♀ Tebessa (M. Bartel).

416. Bryophila maeonis Led.

Bryophila maeonis Lederer, Ann. Soc. Entom. Belg. vol. ix. pp. 63 and 78. pl. iii. f. 8 (1865) (Kisilgye-Aolé).

1 & Environs de Batna (A. Nelva).

417. Athetis euxoides sp. nov. (Pl. XVI. f. 8.)

Q. This is a giant among the *Athetis* and is like nothing hitherto described. Antennae brown; head and thorax purple-brown; abdomen wood grey.

Forewings basal two-thirds purplish maroon-brown irrorated and streaked with grey, outer one-third brighter maroon strigillated with grey; a marginal maroon-black band, fringe greyish rufous. Hindwings basal two-thirds semi-hyaline white washed with grey, outer one-third more strongly suffused and saturated with grey.

Length of forewing, 18 mm.; expanse, 42 mm.

1 ♀ Batna (Nelva coll.).

418. Athetis persimilis sp. nov. (Pl. XVI. f. 9.)

3. Similar to the dark form of quadripunctata F., but without the rufous submarginal band and with shorter broader wings. Head and thorax dark brownish grey; abdomen slightly paler.

Forewings dark brownish grey, costal edge deep buff, the black earadrine spots very conspicuous; an oblique dark band from first spot, post-discal area sooty black-brown with buffish lines. Hindwings white, veins and edge of wing brownish grey.

Length of forewing, 15 mm.; expanse, 35 mm.

3 33 Souk Ahras, Aprîl 1914 (W. R. and K. J.); 1 3 Sidi-bel-Abbès, September 1917 (M. Rotrou).

[Agrotis picata B.-H.

Agrotis picata Bang-Haas Iris, vol. xxvi. p. 140 (1912) (Batna).

This species is near *glareosa* Esp. and is most striking owing to the very dark hindwings.

I have not received this and Mr. Oberthür does not record it.]

[Epia cinochrea (Chrét.).

Dianthecia cinochrea Chrétien, Ann. Soc. Entom. France, vol. lxxix. p. 500 (1911) (Gafsa).

This species is nearest to silenes Hübn., but smaller and paler purer grey.

I have not received it, and Mr. Oberthür believes it to be *Pronotestra silenides* Stdgr.]

[Miselia grisea (D. Lucas).

Polia grisea Daniel Lucas, Bull. Soc. Entom. France, 1908, p. 93 (Kébili, S. Tunisia).

I have not received this species.]

[Crosia hachem Dupont.

Crosia hachem Dupont, Bull. Soc. Entom. France, 1910, p. 369, text fig. 1 (Mascara).

I have not received this, and the type remains unique. Mr. Oberthür should have acknowledged this as it is figured.]

[Parastichtis spinosa (Chrét.).

Hadena spinosa Chrétien, Ann. Soc. Entom. France, vol. lxxix. p. 501 (1911) (Gafsa).

This fits better into *Parastichtis* than *Eumichtis* and is surely one of the *Zenobiinae*. I have never received it.]

[Athetis distigma (Chrét.).

Caradrina distigma Chrétien, Bull. Soc. Entom. France, 1913, p. 282 (Biskra).

The author places this near atriluna Guen.; but I think it comes next to my oberthuri and proximans. I have not received it.]

[Athetis halimi (Chrét.),

Caradrina halimi Chrétien, Bull. Soc. Entom. France, 1913, p. 282 (Biskra).

I have not received this species.]

[Proxenus bicolor Chrét.

Proxenus bicolor Chrétien, Bull. Soc. Entom. France, 1913, p. 304 (Biskra).

I have not received this species.]

[Bombycia angularis (Chrét.).

Calophasia angularis Chrétien, Ann. Soc. Enton. France, vol. lxxix. p. 504 (1910) (Gafsa).

I have no Tunisian *Bombycia* of this group, and as I said antea under *Bombycia* chrétieni mihi I am not sure whether the Sakamodi example enumerated under that species is not angularis.

This question must await more material.]

419. Eublemma nelvai sp. nov. (Pl. XVI. f. 24.)

3. Antennae amber; head and tegulae pale cinnamon, rest of thorax apparently also pale cinnamon; abdomen dark cinnamon-grey.

Forewings pale rosy lavender, costal edge buff passing into rufous towards apex, a einnamon rufous median line edged with cream-buff strongly angled outwards at diseocellulars, inside this angle is the sooty black reniform, a postmedian rather less distinct line rufous also angled outwards, a submarginal broken line of sooty black spots, marginal line cream-colour edged inwardly with rufous, fringe rufous. Hindwings mouse-grey, marginal line cream edged inwardly with rufous; fringe grey, tinged with rufous.

Length of forewing, 9 mm.; expanse, 20 mm.

1 & Environs de Batna, 1914 (A. Nelva).

Mr. Oberthür, following Guenée's elassification, omits from his list all the insects placed by Guenée in his **Deltoides**. This group, according to Guenée, contains what have hitherto been called the *Hypeninae*, together with several of the *Noctuinae* such as *Rivula*.

The insects formerly called *Hypeninae* now make up the fourteenth subfamily of *Noctuidae* and must stand as *Polypogoninae*, according to Sir George Hampson's classification.

420. Nodaria cornicalis (Fabr.).

Phalaena cornicalis Fabricius, Entom. Syst. vol. iii. pt. ii. p. 229. No. 374 (1794) (India).

Herminia nodosalis Herrich-Schäffer, Syst. Bearb. Schmett. Eur. vol. ii. p. 385. No. 607. pl. 118. f. 605 (1845) (Sicily).

Nodaria externalis Guenée, Hist. Nat. Ins. Spec. Gén. Lépid. vol. viii. p. 64. No. 78 (1854) (Coast of Coromandel).

I consider both these insects to be the same, although the late Mr. William Warren in Seitz, Grossschmetterlinge der Erde, kept them separate. Fabricius's name is undoubtedly the oldest.

We have at Tring 35 Mauretanian examples from Environs d'Alger, May—November 1905–1908 (W. R. and E. H., Dr. Nissen and Captain Holl); Oued Hamidou June 1912, Bordj-ben-Anéridj October 1912, Aïn Draham September 1911, Bou Saada June 1912, Perrégaux October 1915, Moroccan Frontier May 1914 (V. Faroult); Rabat, Morocco, January 1913 (A. Théry); Blida, November 1915 (V. Faroult); Sebdou, September 1918 (P. Rotrou).

421. Hypena obsitalis (Hübn.).

Pyralis obsitalis Hübner, Samml. Eur. Schmett. Pyr. ff. 164, 165, 179 (1827).

Of this insect the Mauretanian series at Tring consists of 119 specimens from Mazagan, Morocco, Mhoila nr. Mazagan, January—April 1902–1903 (W. Riggenbach); Rabat, Morocco, January 1913 (A. Théry); Environs d'Alger, March—May 1908–1912 (W. R., E. H., and K. J., and Dr. Nissen); Hammam R'hira May 1916, north side of Djebel Zaccar August 1916, Aïn Sefra July 1915, Blida November 1915 (V. Faroult); Sidi-bel-Abbès, August—September 1917 (M. Rotrou); Sebdou, Forêt de Tenira, May—August 1918 (P. Rotrou).

422. Pechipago (Zanclognatha auct.) crinalis (Treit.).

Herminia crinalis Treitschke, Schmett. Eur. vol. vii, p. 17. No. 8 (1829).

We have of this species 57 Mauretanian examples from Environs d'Alger, May 1906 (Dr. Nissen); Hammam R'hira, May—June 1913–1916 (W. R. and E. H., and Faroult); north side of Djebel Zaccar August 1916, Aïn Draham September 1916, Bou Saada October 1911, Blida November 1915 (V. Faroult); Sidi-bel-Abbès, August—September 1917 (M. Rotrou); Sebdou, Forêt de Tenira, September 1918 (P. Rotrou).

423. Pechipago flavicrinalis sp. nov.

- 3. Differs at a glanee from *crinalis* Treit, in the lunate reniform and much postmedian line of forewing, and in the greyish sandy-yellow colour of wings and body.
 - Q. Similar, but even brighter sandy-yellow colour.

Length of forewing, 3 13–16 mm., \bigcirc 12–15 mm.; expanse, 3 29–35 mm., \bigcirc 27–33 mm.

5 &\$\frac{1}{3}\$, 8 \$\pi\$ from A\text{in Draham August—September 1911, Bou Saada October 1911 (V. Faroult); Hammam R'hira, May 1913 (W. R. and E. H.); Environs d'Alger, May 1908 (W. R. and K. J.); A\text{in Draham (Staudinger); Philippeville, bred from egg (Andreas); Forêt de Yakouren, May 1909 (Mrs. Walsh).

424. Ophiuche lividalis (Hübn.).

Hypena lividalis Hübner, Beitr. Gesch. Schmett. vol. ii. p. 4. No. 1 (1791).

Of this species I have 2 specimens from 1 & Sidi-bel-Abbès, September 1917 (M. Rotrou); 1 & Environs de Tunis, 1916 (M. Blane).

The Sidi-bel-Abbès & expands 22 mm., while the Tunis one expands 32 mm.

There are doubtless several other species of *Polypogoninae* in Mauretania, but I cannot find records of any others.

In order to complete the list of the recorded *Noctuidae* from Mauretania, I enumerate here certain *Westermaniinae* and others already enumerated by me in the earlier portions of these supplemental notes.

425. Nycteola falsalis (Herr.-Sch.).

Nycteola falsalis Herrich-Schäffer, Deutsch, Ins. vol. i. pl. 166, f. 1 (1829) (Germany).

Our series at Tring from Mauretania eonsists of 58 examples from Environs d'Alger, May 1908 (W. R. and K. J.); Sidi Ferrueh, July—August 1911 (A. Théry); Hammam Meskoutine, April—May 1914 (W. R., E. H., and K. J.); Hammam R'hira May 1911–1913 (W. R. and E. H.); Guelt-es-Stel, April 1912 (W. R. and K. J.); Sidi-bel-Abbès, September 1917 (M. Rotrou); Sebdou, May 1918 (P. Rotrou).

The British Museum has I Hammam-es-Salahin, March 1904, Lord Walsingham. One of the Sidi-bel-Abbès examples has the median band absent all but a round black spot above inner margin.

426. Sarrothripus revayana (Scop.).

Tortrix revayana Scopoli, Annus Nat. Hist. vol. v. p. 116 (1772) (Germany).

Our Mauretanian series contains 17 specimens from Environs de Batna, 1911-1912 (A. Nelva); Sidi-bel-Abbès, July—September 1917 (M. Rotrou); Sebdou, June 1918 (P. Rotrou); Masser Mines June 1914, Aïn Sefra July 1915, Aïn Draham July—September 1911 (V. Faroult); Hammam Meskoutine, May 1909 (W. R. and E. H.).

10 of these are ab. glaucana Lampa; 4 are ab. obscura Warr.; 1 is ab. usculana Schmid; and 2 are ab. ilicana Fabr.

427. Earias chlorophyllana Stdgr.

Earias chlorophyllana Staudinger, Iris, vol. iv. p. 249 (1891) (Mardin).

When writing on this species (*Novit. Zool.* vol. xxiv. p. 404 (1917)) I had no Mauretanian specimens, but since then the Tring Museum has received 6 specimens from Sidi-bel-Abbès, August—September 1917 (M. Rotrou).

428. Earias albovenosana Oberth.

Earias albovenosana Oberthür, Etud. Lépid. Comp. fasc. xiii. p. 27. pl. cdxxxvi. ff. 3767, 3768 (1917) (Lambessa).

The Tring series of this now numbers 10 examples from Ain Draham September 1911, Khenchela June 1911, Hammam R'hira June 1917, Ain Sefra, June 1915 (V. Faroult); Sidi-bel-Abbès, June—August 1917 (M. Rotrou); Forêt de Tenira, September 1918 (P. Rotrou).

429. Earias chlorion Ramb.

Earias chlorion Rambur, Cat. Syst. Lépid. Andal. livr. ii. pl. xv. f. 6 (1866) (Andalusia).

Of this species there are 2 at Tring from Biskra, 1911 (W. R. and E. H.).

430. Earias insulana (Boisd.).

Tortrix insulana Boisduval, Faun. Madag. p. 121. pl. 16. f. 9 (1833) (Madagascar).

Of this species we have 2 Mauretanian specimens from Sidi-bel-Abbès, September—October 1917 (M. Rotrou).

431. Hylophila africana Warr.

Hylophila africana Warren in Seitz, Grossschmett. Erde, vol. iii. p. 298. pl. 53m. (1913) (Aîn Draham).

1 &, 1 \(\rightarrow \) Aïn Draham, & July 1911, \(\rightarrow \) no date (V. Faroult and Max Bartel).

432. Abrostola tripartita (Hufn.).

Phalaena tripartita Hufnagel, Berl. Mag. vol. iii. p. 414 (1766) (Berlin).

Mr. Oberthür on p. 201, after *Phytometra gamma*, mentions 3 species which he considers of very doubtful occurrence in Algeria; among them is *Abrostola triplasia*. I have not received *triplasia* it is true, but I myself have captured *tripartita*.

1 & Environs d'Alger, May 6th, 1908 (W. R. and E. H.). This species was overlooked by me.

The following are the doubtful species mentioned by Mr. Oberthür in livr. i. of his *Etudes Entomologiques* in 1876 as having been taken by Dr. Seriziat and Mr. Gandolph and afterwards proved doubtful:

Cirphis comma (Linn.).
Abrostola triplasia (Linn.).
Phytometra chrysitis (Linn.).
Phytometra festucae Linn.

[Borolia sesamiodes Hmpsn.

Borolia sesamiodes Hampson, Cat. Lepid. Phal. Brit. Mus. vol. v. p. 575. pl. xcv. f. 17 (1905) (Hammam-es-Salabin).

I have never had this.

There are in the British Museum 4 ♂♂, 2♀♀ Hammam-es-Salahin, March—April 1904–1906 (Lord Walsingham).

This species was overlooked by me.]

433. Pseudomecia lithoxylea (Bang-Haas).

Hypomecia lithoxylea Bang-Haas, Iris, vol. xxvi, p. 157. pl. vi. f. 19 (1912) (Batna).

1 & October 1913 (V. Faroult).

The only specimen received at Tring of this species had been mislaid, and so was omitted from its proper place in this article.

434. Miselia cappa (Hübn.).

Noctua cappa Hübner, Samml. Eur. Schmett. Noct. f. 447 (1827).

The single specimen received was mislaid when the portion of the article treating of the *Miselias* was being written. This appears to be the first record for Algeria.

1 ♀ Sidi-bel-Abbès, May 1918 (M. Rotrou).

435. Epipsilia faroulti sp. nov.*

Q. Uniform mouse-grey. Hindwings darker, with paler fringe and base. Forewings with two obsolete black antemedian lines, orbicular with faint and reniform with very pronounced black ring, 2 postmedian black lines, with row of black dots between.

Length of forewing, 18 mm.; expanse, 42 mm.

1 ♀ El Mahouna, September 27, 1919 (V. Faroult).

This species is added here as it came to hand after the article had gone to press.

The total number of species and subspecies of *Noctuidae* enumerated in this paper as recorded from Mauretania is 471 and 4 doubtful records.

Mr. Oberthür records 337 and 3 doubtful ones. As, however, Mr. Oberthür follows Guenée's elassification, he has omitted the *Polygoninae* and the genera *Sarrothripus*, *Nycteola*, *Earias*, *Hylophila*, *Rivula*, and *Parascotia*, which are not *Noctuidae* according to Guenée. If we deduct from my list the 14 species included in these genera I have enumerated 457 species and subspecies as opposed to Mr. Oberthür's 337—an increase of 120. Of Mr. Oberthür's 337 there are 32 which I do not possess or else have not received from Mauretania. Of the 471 I enumerate there are altogether 36 either not in the Tring Museum or else not from Mauretania. Of the 441 species represented at Tring from Mauretania, the number of examples is 30,691.

* All recent authors spell Hübner's genus Epipsilia " Episilia," but the former spelling is that of the author,

LIST OF SPECIES IN THE ORDER OF THE CATALOGUE OF LEPIDOPTERA PHALAENAE IN THE BRITISH MUSEUM.

NOCTUIDAE.

Agrotinae.

- 1. Heliothis chanzyi (Oberth.).
- 2. Rhodocleptria incarnata (Freyer).
- 3. Chloridea dipsacea (Linn.).
- 4. Chloridea peltigera (Schiff. & Den.).
- 5. Chloridea nubigera (Herr.-Sch.).
- 6. Chloridea obsoleta (Fabr.).
- 7. Xylina delphinii darollesi (Oberth.).
- 8. Melicleptria scutosa (Schiff. & Den.).
- 9. Timora albida Hmpsn.
- 10. Erithrophaia canroberti Oberth.
- 11. Cladocerotis optabilis (Boisd.).
- 12. Euxoa obesa lipara (Ramb.).
- 13. Euxoa crassa (Hübn.).
- 13a. Euxoa lata (Treit.).
- 14. Euxoa lasserrei (Oberth.).
- 15. Euxoa messaouda (Oberth.).
- 16. Euxoa noctambulatrix (Chrét.).
- 17. Euxoa rugifrons (Mab.).
- 18. Euxoa capsensis (Chrét.).
- 19. Euxoa segetum (Schiff. & Den.).
- 20. Euxoa vestigialis (Rott.).
- 21. Euxoa spinifera spinifera (Hübn.).
- 22. Euxoa hoggari Rothsch.
- 23. Euxoa hastifera abdallah (Oberth.).
- 24. Euxoa mauretanica (B.-H.).
- 25. Euxoa doufanae (Oberth.).
- 26. Euxoa powelli (Oberth.).
- 27. Euxoa robiginosa Stdgr.
- 21. Baroa rootginosa Bugi.
- 28. Euxoa obelisca (Schiff. & Den.).
- 29. Euxoa radius radius (How.).
- 30. Euxoa radius erythroxylea (Treit.).
- 31. Euxoa oranaria (B.-H.).
- 32. Euxoa rotroui Rothsch.
- 33. Euxoa cos cycladum (Stdgr.).
- 34. Euxoa constanti (Mill.).
- 35. Euxoa eos (Oberth.).
- 36. Euxoa christophi (Stdgr.).
- 37. Euxoa trux (Hübn.).
- 38. Euxoa tritici (Linn.).

- 39. Euxoa distinguenda (Led.).
- 40. Euxoa bugeaudi bugeaudi (Oberth.).
- 41. Euxoa bugeaudi islyana (Oberth.).
- 42. Euxoa cursoria (Hufn.).
- 43. Euxoa celsicola gueddelanea (Oberth.).
- 44. Euxoa kaaba (Oberth.).
- 45. Euxoa imperator (B.-H.).
- 46. Euxoa lucipeta (Schiff. & Den.).
- 47. Agrotis ypsilon (Rott.).
- 48. Agrotis orbona (Hufn.).
- 49. Agrotis comes (Treit.).
- 50. Agrotis pronuba (Linn.).
- 51. Agrotis nona Oberth.
- 52. Agrotis c. nigrum (Linn.).
- 53. Agrotis flammatra (Schiff. & Den.).
- 54. Agrotis leucogaster (Frr.).
- 55. Agrotis picata B.-H.
- 56. Agrotis nisseni Rothsch.
- 57. Agrotis xanthographa (Schiff. & Den.).
- 58. Agrotis auguroides Rothsch.
- 59. Agrotis praecipuina (Rothsch.).
- 60. Epipsilia simulatrix (Gey.).
- 61. Epipsilia faceta (Treit.).
- 62. Epipsilia straminea (Rothsch.).
- 63. Epipsilia lycophotioides (Rothsch.).
- 63a, Epipsilia faroulti Rothsch.
- 64. Lycophotia mansoura (Chrét.).
- 65. Lycophotia agrotina (Rothsch.).
- 66. Lycophotia kermesina (Mab.).
- 67. Lycophotia margaritosa (Haw.).
- 68. Lycophotia photophila (Guen.).
- 69. Lycophotia ignipeta (Oberth.).
- 70. Epilecta linogrisea lutosa (Stdgr.).
- 71. Triphaena janthina algirica Oberth.
- 72. Triphaena janthina intermedia Rothsch.
- 73. Triphaena fimbria (Linn.).

Hadeninae.

- 74. Saragossa seeboldi arabum Oberth.
- 75. Scotogramma trifolii cinnamomina Rothsch.
- 76. Scotogramma chimaera Rothsch.
- 77. Scotogramma sodae rosacea Rothsch.
- 78. Scotogramma implexa (Hübn.).
- 79. Miselia luteago (Schiff. & Den.).
- 80. Miselia peregrina (Treit.).
- 81. Miselia oleracea variegata (Aust.).
- 82. Miselia softa luteocinnamomea Rothsch.
- 82a. Miselia cappa (Hübn.).

- 83. Miselia dysodea faroulti (Rothsch.).
- 84. Miselia serena (Schiff. & Den.).
- 85. Miselia grisea (D. Lucas).
- 86. Miselia bicruris (Hufn.).
- 87. Miselia antitypina (Rothsch.).
- 88. Miselia carpophaga (Borkh.)
- 89. Miselia magnolii (Boisd.).
- 90. Miselia filigramma (Esp.).
- 91. Miselia conspersa (Schiff. & Den.).
- 92. Miselia compta galactina (Turati).
- 93. Luperina (Pachetra) leucophaea (Schiff. & Den.).
- 94. Pronotestra silenides (Stdgr.).
- 94a. Aglossestra mariae-ludovicae (D. Lucas).
- 95. Epia silenes (Hübn.).
- 96. Epia cinochrea (Chrét.).
- 97. Cardepia deserticola Hmpsn.
- 98. Cardepia irrisor mauretanica Rothsch.
- 99. Hadula pulverata (B.-H.).
- 100. Hadula griseola (Rothsch.).
- 101. Monima stabilis (Schiff. & Den.).
- 102. Monima cruda (Schiff. & Den.).
- 103. Sideridis lithargyria argyritis Ramb.
- 104. Sideridis albipuncta (Schiff. & Den.).
- 105. Sideridis vitellina (Hübn.).
- 106. Brithys pancratii (Cyr.).
- 107. Brithys encausta (Hübn.).
- 108. Cirphis loreyi (Dup.).
- 109. Cirphis l. album (Linn.). (Cirphis comma (Linn.)).
- 110. Cirphis riparia (Ramb.).
- 111. Cirphis algirica (Oberth.).
- 112. Cirphis sicula (Treit.).
- 113. Cirphis punctosa (Treit.).
- 114. Cirphis putrescens (Gey.).
- 115. Cirphis zeae (Dup.).
- 116. Cirphis unipuncta (Haw.).
- 117. Cirphis congrua (Hübn.).
- 118. Borolia sesamiodes Hmpsn.
- 119. Leucania obsoleta (Hübn.).
- 120. Leucania languida (Stdgr.).

Cuculliinae.

- 121. Copicucullia syrtana (Mab.).
- 122. Copicucullia oberthuri (Culot).
- 123. Cucullia chamomillae calendulae Treit.
- 124. Cucullia santolinae Ramb.
- 125. Cucullia scrophulariphaga Ramb.

- 126. Cucullia blattariae (Esp.).
- 127. Cucullia scrophulariphila Stdgr.
- 128. Cucullia thapsophaga Treit.
- 129. Cucullia oberthuri Rothsch.
- 130. Cucullia verbasci (Linn.).
- 131. Cucullia beata Rothsch.
- 132. Cucullia biskrana.
- 133. Empusada argentina (Fabr.).
- 134. Lophoterges millieri (Stdgr.).
- 135. Hypomecia quadrivirgula (Mab.).
- 136. Copiphana gafsana (Blach.).
- 137. Cleophana chabordis Oberth.
- 138. Cleophana boetica diluta Rothsch.
- 139. Cleophana pectinicornis Stdgr.
- 140. Cleophana jubata Oberth.
- 141. Cleophana vaulogeri Stdgr. 142. Cleophana affinis Rothsch.
- 143. Cleophana fatima B.-H.
- 144. Cleophana diffluens mauretaniae Rothsch.
- 145. Cleophana versicolor Stdgr.
- 146. Cleophana mauretanica Stdgr.
- 147. Amephana warionis (Oberth.).
- 148. Amephana aurita (Fabr.).
- 149. Omphalophana serrata (Treit.).
- 150. Omphalophana adamantina (Blach.).
- 151. Omphalophana pauli Stdgr.
- 152. Omia cyclopea (Gras.).
- 153. Omia oberthuri Allard.
- 154. Metopoceras canteneri canteneri (Dup.).
- 155. Metopoceras canteneri pallidior Rothsch.
- 156. Metopoceras felicina (Lonz.).
- 157. Metopoceras khalildja Oberth.
- 158. Metopoceras omar (Oberth.).
- 159. Metopoceras morosa Rothsch.
- 160. Ammetopa codeti Hmpsn.
- 161. Brachygalea albolineata (Blach.).
- 162. Calophasia stigmatica Rothsch.
- 163. Calophasia kraussi Rebel.
- 164. Calophasia almoravida Grasl.
- 165. Calophasia platyptera (Esp.).
- 166. Leucochlaena oditis (Hübn.).
- 167. Leucochlaena scillae (Chrét.).
- 168. Leucochlaena orana (Lucas).
- 169. Ulochlaena hirta (Hübn.).
- 170. Bombycia chrétieni (Rothsch.).
- 171. Bombycia angularis (Chrét.).
- 172. Derthisa trimacula (Schiff, & Den.).
- 173. Aporophyla chioleuca (Herr.-Sch.).
- 174. Aporophyla nigra (Haw.).

- 175. Lithophane semibrunnea (Haw.).
- 176. Graptolitha lapidea ochreomacula Rothsch.
- 177. Axylia exsoleta (Linn.).
- 178. Dichonia areola mustapha (Oberth.).
- 179. Dryobota furva (Esp.).
- 180. Meganephria oxyacanthae (Linn.).
- 181. Agriopis aprilina bouveti (D. Lucas).
- 182. Eumichtis lichenea (Hübn.).
- 183. Eumichtis solieri (Boisd.).
- 184. Eumichtis accipitrina (Esp.).
- 185. Eumichtis protea (Schiff. & Den.).
- 186. Eumichtis monochroma (Esp.).
- 187. Eumichtis roboris cerris (Boisd.).
- 188. Valeria oleagina (Schiff. & Den.).
- 189. Antitype rosea Rothsch.
- 190. Antitype hagar Rothsch.
- 191. Antitype sahariensis Rothsch.
- 192. Antitype flavicincta (Schiff. & Den.).
- 193. Antitype nigrocincta (Treit.).
- 194. Antitype dubia (Eup.).
- 195. Antitype discalis Rothsch.
- 196. Antitype germana Rothsch.
- 197. Antitype argillaceago deliciosa (Oberth.).
- 198. Antitype subvenusta Pungl.
- 199. Rhizotype flammea (Esp.).
- 200. Rhizotype crassicornis obscura (Oberth.).
- 201. Bryomima codeti codeti (Oberth.).
- 202. Bryomima codeti nisseni (Rothsch.).
- 202a, Dasysternum faroulti Rothsch.
- 203. Dasythorax rotroui Rothsch.
- 204. Conistra vacinii sebdouensis (Aust.).
- 205. Conistra silene (Schiff. & Den.).
- 206. Conistra veronicae (Hübn.).
- 207. Conistra erythrocephala (Schiff. & Den.).
- 208. Grammoscelis magnifica (Rothsch.).
- 209. Omphaloscelis polybela (de Joan.).
- 210. Omphaloscelis lunosa (Haw.).
- 211. Amathes witzenmanni (Standf.).
- 212. Amathes ruticilla (Esp.).
- 213. Amathes lychnidis (Schiff. & Den.).
- 214. Amathes haematidea (Dup.).
- 215. Amathes lota (Linn.).
- 216. Amathes macilenta (Haw.).
- 217. Amathes helvola (Linn.).
- 218. Amathes litura (Linn.).
- 219. Amathes lucida (Hufn.).
- 220. Cymatophora algirica (Culot).
- 221. Xantholeuca croceago (Schiff. & Den.) (before Conistra).
- 222. Cosmia austauti (Oberth.).

Zenobiinae (Acronyctinae).

- 223. Pyrois effusa (Boisd.).
- 224. Amphipyra pyramidea (Linn.).
- 225. Amphipyra tetra (Fabr.).
- 226. Amphipyra tragopoginis distincta Rothsch.
- 227. Anthracia ephialtes (Hübn.).
- 228. Mania maura (Linn.).
- 229. Parastichtis arabs arabs (Oberth.).
- 230. Parastichtis arabs standfussi (Turati).
- 231. Parastichtis arabs biskrae (Oberth.).
- 232, Parastichtis monoglypha (Hufn.).
- 233. Parastichtis spinosa (Chrét.).
- 234. Trachea secalis (Linn.).
- 235. Euplexia lucipara leonhardi Rebel.
- 236. Procus faroulti (Rothsch.).
- 237. Procus furuncula (Schiff. & Den.).
- 238. Eremobia alpigena (Boisd.).
- 239. Sidemia aflouensis Rothsch.
- 240. Sidemia fulva (Rothsch.).
- 241. Pseudomecia lithoxylea (B.-H.) (correct place after Stilbina).
- 242. Margelana irritaria (B.-H.).
- 243. Centropodia inquinata Mab.
- 244. Pseudamathes volloni (D. Lucas).
- 245. Pseudopseustis tellieri (D. Lucas).
- 246, Pseudohadena chenopodiphaga (Ramb.).
- 247. Pseudohadena roseonitens (Oberth.).
- 248. Palluperina powelli (Culot).
- 249. Palluperina nickerlii graslini.
- 250. Palluperina dayensis (Oberth.).
- 251. Palluperina dumerilii (Dup.).
- 252. Trigonophora meticulosa (Linn.).
- 253. Eriopus latreillei (Dup.).
- 254. Eriopus juventina (Cram.).
- 255. Oedibrya subplumbeola (Culot).
- 256. Oederemia precisa (Warr.).
- 257. Bryophila muralis (Forst.).
- 258. Bryophila pseudoperla Rothsch.
- 259. Bryophila aerumna Culot.
- 260. Bryophila bilineata Rothsch.
- 261. Bryophila albimaculata albimaculata Rothsch.
- 262. Bryophila albimaculata grisescens Rothsch.
- 263. Bryophila algae (Fabr.).
- 264. Bryophila receptricula pallida B. Baker.
- 265. Bryophila ravula (Hübn.).
- 266. Bryophila maeonis Led.
- 267. Bryophila divisa oxybiensis Mill.
- 268. Bryophila simulatricula Guen.
- 269. Bryophila antias Culot.

- 270. Bryophila anaemica Hmpsn.
- 271. Bryophila petraea Guen.
- 272. Iambiodes incerta Rothsch.
- 273. Polyphaenis xanthochloris graslini Culot.
- 274. Thalpophila vitalba (Frr.).
- 275. Sidemia fissi puncta oberthuri Rothsch. (correct place after 238).
- 276. Craniophora pontica (Stdgr.).
- 277. Acronycta tridens (Schiff. & Den.).
- 278. Acronycta psi (Linn.).
- 279. Acronycta rumicis pallida Rothsch.
- 280. Stilbina numida (Oberth..)
- 281. Prodenia litura (Fabr.).
- 282. Spodoptera abyssinia Guen.
- 283. Laphygma exigua (Hübn.).
- 284. Rabinopteryx subtilis (Mab.).
- 285. Rabinopteryx nelvai Rothsch.
- 286. Stilbia anomala calberlae (Faill.).
- 287. Stilbia algirica (Culot).
- 288. Stilbia turatii (D. Lucas).
- 289. Athetis atriluna Guen.
- 290. Athetis ambigua (Schiff. & Den.).
- 291. Athetis kadenii rufostigmata Rothsch.
- 292. Athetis flava (Oberth.).
- 293. Athetis approximans Rothsch.
- 294. Athetis clavipalpis (Scop.).
- 295. Athetis jacobsi Rothsch.
- 296. Athetis germaini (Dup.).
- 297. Athetis pertinax inumbrata Rothsch.
- 298. Athetis oberthuri Rothsch.
- 299. Athetis aspersa (Ramb.).
- 300. Athetis alsines (Brahm.).
- 301. Athetis blanda (Schiff. & Den.).
- 302. Athetis casearia (Stdgr.).
- 303. Athetis astigmata Rothsch.
- 304. Athetis hispanica (Mab.).
- 305. Athetis ingrata (Stdgr.).
- 306. Athetis flavirena (Guen.).
- 307. Athetis scotoptera (Püngl.).
- 308. Athetis euxoides Rothsch.
- 309. Athetis persimilis Rothsch.
- 310. Athetis distigma (Chrét.).
- 311. Athetis halimi (Chrét.).
- 312. Hydrilla caliginosa (Hübn.).
- 313. Proxenus bicolor (Chrét.).
- 314. Hadjina viscosa (Frr.).
- 315. Catamecia mauretanica Stdgr.
- 316. Catamecia jordana balestrei (D. Lucas).
- 317. Namangana chimaera Rothsch.
- 318. Hydroecia xanthenes orientalis (Oberth.).

- 319. Enargia ulicis (Stdgr.).
- 320. Enargia regina (Stdgr.).
- 321. Enargia algirica (Culot.)
- 322. Enargia jordani Rothsch.
- 323. Arenostola deserticola Stdgr.
- 324. Arenostola mabillei (D. Lucas).
- 325. Oria fulva africana Oberth.
- 326. Archanara neurica (Hübu.).
- 327. Archanara dissoluta (Hübn.).
- 328. Archanara affinis Rothsch.
- 329. Sesamia vuteria (Stoll.).
- 330. Sesamia cretica Led.
- 331. Sesamia striata Stdgr.
- 332. Sesamia calamistis Hmpsn.
- 333. Simyra autumna Chrét. (correct place after Stilbina).
- 334. Argyrospila musculosa (Hübn.).
- 335. Argyrospila dulcis Oberth.
- 336. Argyrospila striata Stdgr.
- 337. Protomeceras mimicaria (Oberth.).
- 338. Synthymia fixa australis (Oberth.).
- 339. Azenia sabulosa (Rothsch.).
- 340. Aegle vespertalis (Hübn.).

Erastriinae.

- 341. Catablemma geyri (Rothsch.).
- 342. Catablemma cremorna Rothsch.
- 343. Eublemma velox griseomargo (Warr.).
- 344. Eublemma lacernaria (Hübn.).
- 345. Eublemma suava blandula (Ramb.).
- 346. Eublemma jucunda (Hübn.).
- 347. Eublemma syrtensis Hmpsn.
- 348. Eublemma ostrina (Hübn.).
- 349. Eublemma pseudostrina Rothsch.
- 350. Eublemma grata (Guen.).
- 351. Eublemma cochylioides (Guen.).
- 352. Eublemma parva (Hübn.).
- 353. Eublemma candidana Fabr.
- 354. Eublemma scitula (Ramb.).
- 355. Eublemma permixta (Stdgr.).
- 356. Eublemma albida (Dup.).
- 357. Eublemma deserti Rothsch.
- 358. Eublemma purpurina (Schiff. & Den.).
- 359. Eublemma polygramma (Dup.).
- 360. Eublemma arida Rothsch.
- 361. Eublemma subvenata (Stdgr.).
- 362. Eublemma albidior Rothsch.
- 363. Eublemma albicans (Guen.).
- 364. Eublemma virginalis (Oberth.).

- 365. Eublemma emir (Culot).
- 366. Eublemma deserta (Stdgr.).
- 367. Eublemma ernesti Rothsch.
- 368. Eublemma albivestalis Hmpsn.
- 369. Eublemma wollastoni N. C. Rothsch.
- 370. Eublemma lacteola Rothsch.
- 371. Eublemma pernivea Rothsch.
- 372. Eublemma croceus Rothsch.
- 373. Eublemma confusa Rothsch.
- 374. Eublemma nelvai Rothsch.
- 375. Phyllophila numerica disjecta Warr.
- 376. Eulocastra diaphora (Stdgr.).
- 377. Nereisana oranaria (Lucas).
- 378, Crosia hachem Dupont.
- 379. Erastria trabealis deleta (Stdgr.).
- 380. Tarache lucida (Hufn.).
- 381. Tarache biskrensis (Oberth.).

Phlogophorinae (Euteliinae).

382. Phlogophora adulatrix (Hübn.).

Odontoninae (Stictopterinae).

383. Nycteola falsalis (Herr.-Sch.).

Sarrothripinae.

384. Sarrothripus revayana (Scop.).

Westermanniinae.

- 385. Earias insulana (Boisd.).
- 386. Earias chlorion Ramb.
- 387. Earias albovenosana Oberth.
- 388. Earias chlorophyllana Stdgr.
- 389. Hylophila africana Warr.
- 390, Xanthodes malvae (Esp.).

Catocalinae.

- 391. Mormonia dilecta powelli (Oberth.).
- 392. Mormonia sponsa laeta (Oberth.).
- 393. Catocala promissa hilaris Oberth.
- 394. Catocala optata sultana B.-H.
- 395. Catocala optata intermedia Hmpsn.
- 396. Catocala puerpera rosea (Aust.).
- 397. Catocala elocata (Esp.).
- 398. Catocala oberthuri Aust.
- 399. Catocala conjuncta vivida Warr.
- 400. Catocala conversa (Esp.).

- 401. Catocala nymphagoga vallantini Oberth.
- 402. Ephesia nymphaea (Esp.).
- 403. Ephesia eutychea (Treit.).
- 404. Minucia lunaris maura Oberth.
- 405. Anua tyrhaca (Cram.).
- 406. Parallelia algira (Linn.).
- 407. Grammodes stolida (Fabr.).
- 408. Grammodes boisdeffrei (Oberth.).
- 409. Grammodes geometrica (Fabr.).
- 410. Anydrophila sabourodi (D. Lucas).
- 411. Callistege (Cerocala) algiriae (Oberth.).
- 412. Callistege (Cerocala) sana (Stdgr.).
- 413. Leucanitis kabylaria B.-H.
- 414. Hyperglaucitis benenotata moses Stdgr.
- 415. Clytie sancta (Stdgr.).
- 416. Clytie luteonigra Warr.
- 417. Clytie arenosa Rothsch.
- 418. Clytie syrdaja Hmpsn.
- 419. Cortyta acrosticta (Püngl.).
- 420. Cortyta rosacea (Rebel).
- 421. Cortyta leucoptera (Hmpsn.).

Phytometrinae.

- 422. Phytometra ni (Hübn.).
- 423. Phytometra daubei (Boisd.).
- 424. Phytometra chalcytes (Esp.).
- 425. Phytometra accentifera (Lef.). (Phytometra festucae (Linn.)).
- 426. Phytometra gamma (Linn.). (Phytometra chrysitis (Linn.)).
- 427. Phytometra orichalcea (Fabr.).
- 428. Abrostola tripartita (Hüfn.). (Abrostola triplasia (Linn.)).

Noctuinae.

- 429. Anumeta atrosignata harterti Rothsch.
- 430. Anumeta sabulosa Rothsch.
- 431. Anumeta major Rothsch.
- 432. Anumeta cestis parvimacula Rothsch.
- 433. Anumeta hilgerti Rothsch.
- 434. Anumeta spatzi Rothsch.
- 435. Anumeta straminea (B.-H.).
- 436. Drasteria oranensis Rothsch.
- 437. Syneda caileno caileno (Lef.).
- 438. Syneda caileno philippina (Aust.).
- 439. Catephia leucomelas (Linn.).
- 440. Mageutica alchymista alchymista (Schiff. & Den.).

